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TECHNOLOGY IN WARFARE

Ferdinand Otto Miksche



"THE art of war" is not a particularly felicitous expression. It is a confusing one, because how are the brutality of war and the aesthetics of art to be combined in one world?

As concepts they are in the same relation as fire and water. Yet the conduct of war has always been more than a simple craft. Count Maurice de Saxe was not without reason when he said in effect that war is a science covered in darkness in whose gloom one can scarcely take a safe step. For Scharnhorst, too, the army was not a purely technical organization which could be considered merely from the viewpoint of its mechanical function.

It is precisely in strategy that a general one-sided use of technology, in the manner

in which such use now is taken for granted in practically all branches of life, could lead to a fatal short circuit. Because we are dealing with an art, it is just as impossible to win battles by technical means only as it would be to paint pictures by machinery and to leave the choice of harmonious colors to an electronic brain. Those who think overmuch in technical terms tend to believe that material things are more important than anything else in war, that they determine success, and that victory is merely a matter of the quality of material and the speed with which it is put into use.

The triumph of material over the spirit is transforming the art of war to a simple technique of war, the general to a me-

We must not become so engrossed in technology as to overlook the basic aspects of warfare. Even modern weapons fail to justify their cost if the expense of using them is out of proportion to their practical effect

chanic. His creative ability, his art, is being supplanted by a technical routine; his soldiers, no longer warriors, are becoming merely specialists in the use of certain instruments. If this trend continues, the army will become an organization functioning like an industrial undertaking led by engineers known as officers. The troops will be administered rather than commanded by a vast overblown military bureaucracy. Field Marshal Graf von Moltke's well-known remark that large staffs are the certain sign of bad armies is as true today as it was when he made it.

Pushbutton War

Let us project our imagination into a war of the future. With fixed gaze a nuclear age general follows the battle on a television screen. Highly specialized "warriors" manipulating the radar apparatus search the sky for the enemy. For these soldiers "fighting" consists of watching colored signal lamps and the dials on electronic brains and rangefinders, in pushing buttons, and pulling levers. What happens, though, when an enemy party armed with kitchen knives breaks in? Would that not put an end to all this? One thinks of Archimedes, surprised by a Roman warrior and

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murdered while engaged in solving a complicated geometrical problem. Deep in thought the Greek sage was calmly drawing his circles in the sand, and all he could utter when he noticed the Roman's drawn sword was: *Noli tangere circulos meos* (do not disturb my circles). Those were his last words. It would be impossible, of course, simply to try to do away with radar, rockets, or aircraft. The point which is being made here is a quite different one.

Any business runs down when its expenses exceed its takings. No one would attempt to do a job with apparatus whose procurement and running costs would exceed the profits derived from the product. In addition, however productive machines are, it is no-use producing more goods than the market can absorb, particularly when they are specialized goods not intended for general consumption. This elementary commercial principle can be applied to military affairs. In warfare everything must be so adapted to the required aim that the goal is reached with the minimum of expenditure. Even the most modern weapons fail to justify their cost if the expense of using them is out of proportion to their practical effect. Armed forces are uneconomical if their performance is not up to the materials they use.

To express these thoughts in practical terms, there would be little use of inventing an automobile which would transport three times the normal load at 500 miles an hour but which would be five times as expensive and use 10 times as much fuel as current models. To permit the use of such vehicles, exceedingly wide roads would have to be constructed, and as it would be impossible to cover a country with a sufficiently thick network of these, loads would have to be transferred at certain points to smaller vehicles, with traffic blocks the probable result. For all its outstanding technical achievements such an invention would be useless both on practical and financial grounds.

This example, however absurd it may sound, has an applicability to warfare in that not only the "profitability" of a military system can be placed in jeopardy by the incorrect provision of means, but also the practical working of the system. This danger particularly arises when certain tasks cannot be accomplished with the available apparatus. Thus there occur those gaps through which the "simple" infiltrates in order to combat the "complicated." Not all fields can be worked with tractors, and even where they can be some supplementary work with a simple plow often is unavoidable; where that is neglected, weeds grow in the untilled parts and gradually spread over the entire field.

Weapons and Man

Despite their speed, range and effects, or even because of them, many modern weapons are unsuited to fill out time and space to the necessary extent. Some of them neutralize each other either through the danger of reprisal which their use threatens, or frequently because of their cost. In many branches of military technology, for one reason or another, a type of saturation process is becoming felt, and the practical value of many weapons gradually is diminishing. The simple truth that "man is the measure of all things" was enunciated long ago by the Greek Sophist Protagoras (485-411 B. C.). Man's natural gifts have their limits which cannot be exceeded. Even though these capacities can be extended by technology to a considerable extent, instruments lose their usefulness if their properties are not in harmony with nature. As the human eye can scarcely focus on a target in the field much more than 600 yards away, a rifle with a range of four miles would be, at the most, a curiosity.

Aircraft flying at 1,200 miles an hour over a battlefield are practically immune to conventional antiaircraft fire. How are guns to be effective against them when there is no time to aim? Is not a light

antiaircraft unit costing in excess of 4 million dollars too expensive when its effect is, at the most, one of discouragement? For the same amount six to eight infantry battalions could be equipped and, if well-trained, *be of use much more frequently*. Are troops in forward areas to be supplied with antiaircraft rockets? Apart from the question of whether the problem of air defense is technically soluble at all, the fact remains that the investment required for an effective defense could hardly be afforded and an attempt to provide it could only be at the cost of more "profitable" armaments.

At the same time, one may well ask what is the practical value of aircraft from which one sees the terrain no better than a passenger in a fast train sees the telegraph poles? How is it possible in the split seconds available for air observers to discover and promptly attack well-camouflaged gun positions or other targets? The speed of the aircraft not only affects accuracy of aim but also the machine's maneuverability. The possibilities of their intervention in ground fighting on small objectives are becoming limited. All these circumstances may provide new problems concerning air support in the future.

Cost versus Effectiveness

Technically higher performance still is no sign of tactical usefulness or profitability. Since 1918 field guns have become eight times as expensive, largely because of improvements in ballistic qualities and rate of fire. Nevertheless, it is questionable whether these improvements are commensurate with the price. The comparatively greater firepower of Soviet divisions, despite their smaller size compared with that of Western divisions, is astonishing. Almost half of this consists, however, of mortars or rocket projectors which are organized in battalions and even in regiments. Both these weapons are, in a manner of speaking, primitive and, therefore, immeasurably cheaper than the high-pre-

cision guns of normal artillery. On an average they are only one-eighth of the weight of field guns of similar caliber. Rocket projectors have a range up to 5,000 yards and the 160-mm Soviet mortars are effective up to 8,000 yards.

Helicopters certainly are useful in many situations. However, because of their high production and maintenance costs it seems hardly likely that they can become an instrument for general use, but probably will remain one for particular operations. The problem of defense against fast-flying aircraft is difficult, but the slowly moving helicopter would be a comparatively easy victim of the antiaircraft weapons possessed by every Soviet infantry division. In a Soviet infantry division there are over 90 *Degtjarew* Type 12-7 heavy machineguns, with a rate of fire of 575 rounds a minute and a range of over 2,000 yards.

A 12-seater helicopter costs more than \$150,000 for which sum it would be possible to equip fully 150 men with, apart from small arms, four machineguns, four mortars, and three to four motor trucks. True, it is argued that helicopters treble the tactical value of troops. Even if that were so, that only gives the 12 men the tactical value of 36, a number which could hardly stand up in all situations to 150 better equipped men. At least 50 helicopters would be needed to transport an entire battalion, and at the same cost complete regiments could be equipped.

An American tank presumably is superior to a Soviet tank in single combat. However, since the production cost of the higher quality American tank is two to three times as much, 90 Soviet tanks could be produced for the cost of 30 American tanks. Where does the advantage lie in an encounter? Would not quantity rather than higher quality be decisive? Is not the side with the greater number of tanks more likely to dominate the other both spatially and temporally? Tanks worth more than \$100,000 can be stopped today by a com-

paratively simple guided rocket which, costing about \$150 and weighing 30 pounds, can pierce a 300-mm steel plate at 1,000 yards. Even though 10 rockets were needed, on an average, to destroy a tank, the price still would be a hundred times lower than that of the target.

Armored Units

The many dangers to which the mechanized supply services—the columns stretching hundreds of miles along the roads—are now exposed, added to the development of antitank weapons, also make the future profitability of heavy armored units questionable. The complete equipping of a battalion with 60 tanks requires as much money as that for eight to 12 infantry battalions. To cite another example, four to six antitank batteries, with 18 guns firing 180 rounds a minute, could be organized for the cost of one tank battalion. The figures given do not take into account the operating expenses which make themselves felt mainly in the number of rear services. They are enormously higher for armored units than for antitank batteries or infantry battalions. Field Marshal Rommel, from his great experience in mechanized warfare, was conscious of the vast importance of antitank weapons, without, of course, being able to know the extent of their development today.

The systematic attempt to contrast the costs of various weapons could, of course, be misleading. Nonetheless, the figures given are suggestive. To bring dissimilar means such as tanks, helicopters, antiaircraft guns, and infantry down to a common denominator is like trying to compare apples with pears. However, it is not a waste of time since all weapons, despite their differences, have a common purpose. They can, therefore, to a certain, although not easily definable, extent replace or at least complement each other. The fact that troops must have a variety of material at their disposal is not in question. What should be attempted, however, is to in-

corporate these in a balanced manner in a military system, taking into account their profitability.

In another respect the figures are also not without interest. They indicate that equipment for large-scale offensive warfare costs at least double that required to arm troops intended for a defensive strategy. The type of defense does not, of course, imply an absolutely rigid attitude. The more mobile a formation is, the greater is its need of supplies, and consequently of services.

Organizational Efficiency

A modern army without mechanized forces is scarcely capable of fighting. A defense system, however, is uneconomic if it tries to accomplish its manifold tasks on the battlefield merely with mechanical means even in cases where simpler weapons would be adequate. Particularly costly are divisions which with their armament can operate both offensively and defensively with considerable independence. It is true that formations capable of offensive action also can be effective in defense, whereas troops of limited mobility intended only for the defensive would hardly be able to take part in any large-scale offensive action.

Until the American Army was armed with nuclear weapons, the West based its ground forces on two types of units, the mechanized infantry division and the armored division. Upon close inspection, these two types are not so essentially different. Both only prove themselves really profitable as the deciding element in large-scale mobile warfare. However, since war is a constant alternation of various forms of fighting, principally of attack and defense, the numerous tasks which arise in war cannot be solved by one or two standardized types of divisions. Military suitability and economy require troops so constituted as to be able to use the appropriate means in the necessary quantity which circumstances require. Equipping all sec-

tions of the army with the most modern technical means, which results in introducing weapons whose expense is no longer related to their practical effect, or in setting up units whose employment in many situations is not economical, is hardly practical.

Modern equipment, of course, increases the efficiency of troops. However, no one could establish a scale which would be completely reliable, since the value of the equipment varies according to the tactical situation. An example already mentioned is the assertion that troops equipped with helicopters are treble superior to those which have none. Sometimes it may be so, but on many other occasions the troops with helicopters may be at a disadvantage because of their lack of heavy matériel.

Determinants

In brief, weapons or instruments gradually lose their effectiveness in the following cases:

1. When their use can attract reprisals which jeopardize the success achieved.
2. When their properties are such that they can be adapted only with difficulty to the natural capacities of human beings.
3. When their production costs are greater than their real tactical effect in battle.
4. When the same or a similar effect can be achieved by a number of weapons whose cost collectively is cheaper.
5. When means are invented of cheaply destroying expensive weapons.
6. When the maintenance of machines at the front requires such extensive services that the resulting inflexibility or complexity makes the system too sensitive, and when the upkeep costs become insupportable.

However greatly special weapons increase the effectiveness of armies, without basic armament there can be no armies. It is remarkable how, from a political viewpoint, quantitatively strong fighting forces make more impression than high-

quality small ones. An effective armaments policy requires the procurement of weapons of general use in adequate quantities not only for the standing army but for all those mobilized in case of emergency, plus stockpiling in depots of ammunition, motor fuel, food, and clothing. Only when these basic requirements are fulfilled can one start to think of special apparatus, and this remark applies particularly to equipment or weapons which are so expensive that it is impossible to acquire them in sufficient quantities that they alone could be decisive in their effect. One can scarcely have everything at once. Therefore, it is illogical to strive for everything simultaneously and accordingly to neglect the provision of basic armament.

Such policy eventually results in having nothing in sufficient quantity.

Conclusion

True progress means freeing troops from the rigidity of an exaggerated materialism while bringing their effectiveness into line with our financial resources. In assessing the effects of modern technology on armed forces, different standards apply from those related to other aspects of life. The correct way lies in a cautious avoidance of extremes. To be more precise, an efficient defense system must be built *not* on nuclear weapons plus machines plus fighting men, but on *fighting men* plus machines plus nuclear weapons forming a balanced entity.

The fiscal requirements for defense inevitably run afoul of conflicting considerations, particularly of the justifiable apprehension that overspending for defense may cause serious damage to our economy. But do we have any real choice but to meet our essential needs for defense? It is true that we should examine critically every part of the defense program to assure essentiality. We must leave no stone unturned to assure ourselves of the soundness and the adequacy of our national strategy. This strategy should include an appropriate weighting, not only of military factors, but of political, economic, and moral factors as well. I often have occasion to say that no responsible military leader considers that there is a purely military program which is adequate for our national security. Rather, security is a corporate venture in which every element of our society has a contribution to make. I would go further and say that it is definitely more difficult to determine how to use our nonmilitary assets than it is to use those strictly military in character. Insofar as military resources are concerned, we should be sure that they are used to provide flexible, versatile forces capable of making an adequate response to the varied challenges which we may anticipate. No single weapon, no single service can do the job. It requires, rather, the careful integration of the contributions of the Army, Navy, and Air Force to provide our civilian leaders with an instrument of sufficient flexibility to assure our military security.

General Maxwell D. Taylor

REAR AREA SECURITY AND REAR AREA DAMAGE CONTROL

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This article is in consonance with current instruction at the United States Army Command and General Staff College.—Editor.

THE land lines of communication and administrative support facilities of US forces have been seriously threatened in nearly every war in which the United States has been engaged. However, the threat has usually been apparent for relatively short periods of time and in most cases has been of a localized nature with respect to the over-all area or areas of operation. In addition, the effect of these threats were not of an enduring or decisive nature with respect to the war's final outcome.

As a result the vital problems associated with rear area security and rear area damage control have never been thoroughly considered by commanders nor has adequate doctrine been published. This is more than substantiated by the fact that current concepts for rear area security and rear area damage control do not adequately recognize the extensive enemy capabilities for interrupting rear area operations, the magnitude of the effort required to defend against his capabilities,

nor the necessity for fully integrating rear area security and rear area damage control operations with other administrative support operations. By definition a rear area is the geographical space within a command area where the bulk of the administrative support functions for the command are performed. Rear areas include the theater administrative zone (TAZ), the field army service area, the corps rear area, and the division service area.

Deficiencies in current rear area security/rear area damage control concepts take on added significance in the present era of rapidly changing technology. The introduction of long-range missile delivery systems and the tremendous destructive power and residual effects of nuclear weapons have created a new set of combat conditions. Increased dispersion of both units and installations required to minimize the effects of nuclear attack have increased the vulnerability of rear areas to attack by infiltrators, guerrillas, saboteurs, and vertical envelopment.

The primary mission performed in rear areas is administrative support which is the very lifeblood of combat forces. Administrative support includes rear area security/rear area damage control as well

The vulnerability of rear area installations has increased immeasurably with the availability of weapons of unparalleled destructive power. Current concepts for security and damage control of rear areas must be revised to prevent unacceptable losses in these vital functions

as logistics, personnel administration, and civil affairs activities. Rear area security and rear area damage control constitute those operations necessary to prevent interruption of, or to limit the extent of interruption of administrative support activities and must be regarded as integral parts of administrative support. Rear area security measures include all actions taken to prevent or neutralize localized enemy threats to units, activities, and installations in the rear area, except active air defense operations or defense against enemy threats large enough to endanger the command as a whole. Enemy threats such as the latter are considered as a part of the main battle and are beyond the scope of rear area security measures. Rear area damage control includes those preventive and control measures taken prior to attack or natural disaster and those taken during or after attack to avoid or minimize the reduction of administrative support. Damage control aids in the continuation or reestablishment of administrative support.

Forward of the division service area, security and damage control are a normal

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part of tactical operations and are coordinated and effected as an integral part thereof. In rear areas these functions require special measures since the command, staff, communications, operations centers, and other means required are not provided as a part of the organizational structure concerned with primary operations in the area. Under normal conditions, local security, rear area security, and rear area damage control must all be performed primarily by administrative support units. However, when required by the situation, a limited number of combat units may be designated to assist in the rear area security mission.

Rear area security and rear area damage control operations are divided into two phases. Phase I includes those actions which take place prior to a hostile or natural incident. Phase II includes those actions which take place during and after an incident. Phase I operations are conducted continuously and are designed to prevent successful enemy attacks and to establish a state of readiness for dealing with incidents before they occur. Phase II operations are initiated as required and normally as a result of enemy action. Both phases of rear area security and rear area damage control operations must exploit to the extent possible, mutual assistance and support between units and installations. Both operations must be correlated with other administrative support plans and operations.

Rear Area Security Operations

Phase I rear area security operations range from the initial planning of all aspects of security to the actual conduct of reconnaissance, surveillance, and counter-reconnaissance. This phase includes measures such as establishing a command and control structure; designating local security elements; designating, equipping, and training such combat units as may be required; assigning area responsibilities to security forces; establishing communica-

tion and warning systems; developing and rehearsing plans and standing operating procedures (SOP's); and conducting route patrols and convoy escorts.

Phase II rear area security operations include the location and engagement of local enemy guerrilla, saboteurs, and conventional forces as well as the defeat of these forces. The primary mission of the security forces is to fix and destroy the enemy or to keep the hostile elements sufficiently off balance so as to preclude their launching successful offensive operations. In the event hostile attacks occur, security forces are deployed rapidly to defeat the enemy elements or to contain the attack until additional assistance is provided.

Rear Area Damage Control Operations

Phase I of damage control operations is of primary importance because it includes preventive and readiness measures, designed to preclude damage where possible, otherwise to reduce damage to a minimum. Dispersion, deception, denying information to the enemy, and protective shelter are the main preventive measures used to avoid or reduce the effects of mass destructive weapons. Readiness measures to facilitate Phase II operations include: preparing plans and SOP's; organizing, equipping, and training damage control teams; designating areas of responsibility; establishing communication and warning systems; preliminary fallout prediction; and planning for reestablishing or replacing damaged or destroyed service facilities.

Phase II damage control operations begin when an incident occurs. Immediate assessment of damage, together with rapid and accurate reports, are vital because of the possible impact on tactical and administrative support operations. Measures to be taken may include:

1. Restoration of administrative support to the supported force.
2. Reestablishment of command.

3. Control of personnel and traffic.
4. Fire prevention and fire fighting.
5. First aid—buddy aid and self aid.
6. Sorting, emergency medical treatment, and evacuation of casualties.
7. Protection against chemical and biological hazards to include radiological fallout.
8. Emergency supply of food, clothing, and water.
9. Disposal of munitions.
10. Initiation of salvage operations.
11. Decontamination of facilities, areas, personnel, supplies, and equipment.
12. Conduct of organized radiological monitoring and survey operations.

Current Doctrine

Doctrine for rear area security and rear area damage control within the theater administrative zone (TAZ) must be considered separately from that applicable to echelons within the field army. The TAZ is entirely a rear area. The primary mission of the TAZ commander is administrative support of combat forces. However, command echelons within the field army have responsibility for a rear area and a combat area. The primary mission of the commanders of these echelons is the planning and conduct of tactical operations.

Within TAZ

Within the TAZ recent organizational changes provide for a director type staff in the theater army logistical command (TALogComd) and in its major subordinate logistical commands. The commander of the TALogComd, advance logistical command (AdvLogComd), or base logistical command (BaLogComd) commands all troops assigned or attached. He is responsible for the accomplishment of the administrative support and territorial missions assigned, and for the operations of the forces required to accomplish these missions. The commander assigns direct responsibility for rear area security and rear area damage control to his deputy

commander. The director of security prepares SOP's, plans, and directives for rear area security and rear area damage control, and coordinates their implementation with subordinate logistical commands, depots, and area commands. The responsibility for coordinating and integrating rear area security and rear area damage control is of a dual nature in that the director of plans and operations accomplishes this in conjunction with the director of security.

The over-all administrative support function which includes personnel, logistics, civil affairs, and rear area security and rear area damage control is not the responsibility of any one director. The directors of personnel, services, supply and maintenance, plans and operations, civil affairs, and security, all coequal staff officers, are individually responsible for portions of the administrative support mission. These directors are responsible for coordinating with each other but each issues instructions obtaining to his staff responsibilities directly to the various subordinate commands. Units of coequal commands such as the theater air defense command or US Navy or Air Force elements located within the logistical or area command are responsible to the commander thereof for rear area security and rear area damage control operations in accordance with such instructions as may be issued by higher authority, or as may be effected through direct coordination between the headquarters of the units concerned.

Within the Field Army

Rear area security/rear area damage control and administrative support are mutually interrelated and interdependent elements of the sustaining function of the command. (Figure 1.) However, under current concepts G3 has general staff responsibility for rear area security; G4 has responsibility for rear area damage control; and the over-all administrative sup-

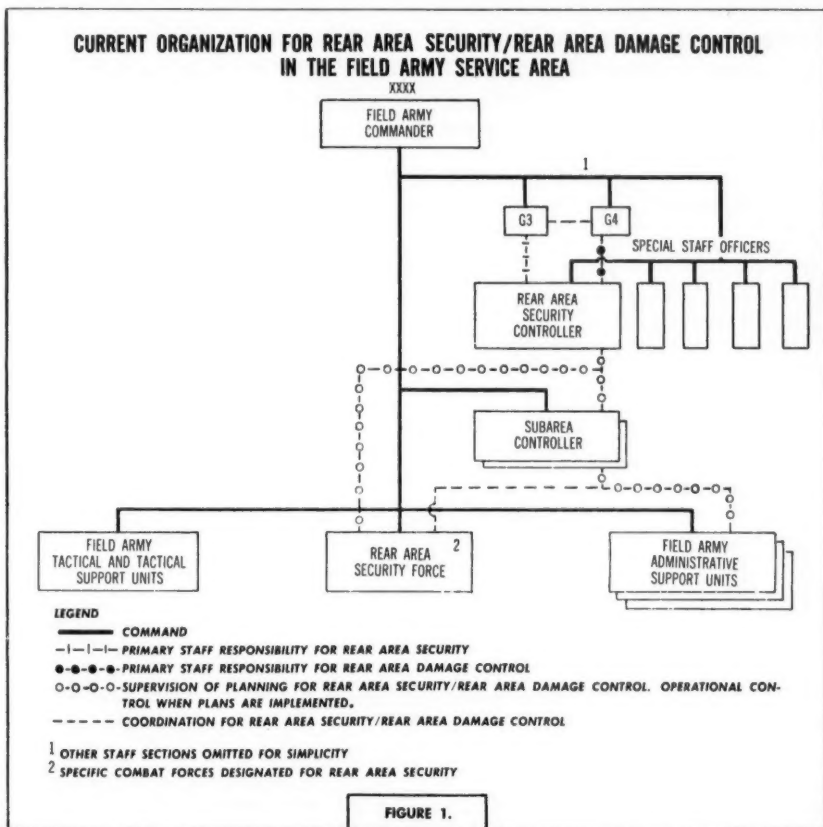
port function is the responsibility of G1, G4, and G5. In addition, G2 is assigned responsibility for intelligence activities including area surveillance and reconnaissance. Fallout prediction, monitoring, and survey operations within rear areas are included within rear area damage control operations.

At field army level, a rear area security control center (RASCC) is established under the supervision of a rear area security controller (RASC). The controller is responsible for rear area security, coordination of requirements for combat units for security missions, surveillance of rear areas, and development of requirements for communications pertaining to rear area security matters. The field army service area is normally divided into subareas (Figure 2). Responsibilities for security operations by units within these subareas is assigned to subarea controllers who are normally technical service group commanders, such as engineer or ordnance group commanders. This assignment of responsibilities is an additional duty. The personnel and equipment for RASC, RASCC, and the system as a whole are provided on a provisional, improvised basis from bulk allotment personnel and augmentation to existing tables of organization and equipment (TOE). The RASCC is established at the field army main command post but usually an alternate RASCC is established at the field army headquarters rear echelon. When the scale of the use of nuclear weapons exceeds the capabilities of the tactical operations center to provide fallout prediction and survey operations for the entire army area, a radiological center (RADC) may be attached to the RASCC or alternate RASCC. When rear area security/rear area damage control plans are implemented, the RASC assumes operational control over designated combat, combat support, and administrative support units and the subarea controllers.

Within Corps

At corps level the responsibilities of staff officers are the same as those at field army. However, a rear area security controller is not normally designated, nor is an RASCC established. Responsibility for

their primary mission. This creates a most difficult coordination problem. Rear area security and rear area damage control measures are prescribed in corps SOP's and plans and are applicable to all units in the corps area. Subarea controllers are



rear area security and rear area damage control is normally assigned as an additional duty to commanders of corps units (such as an engineer group commander) located in the corps rear areas. However, many units located in the corps rear area are actually under field army control for

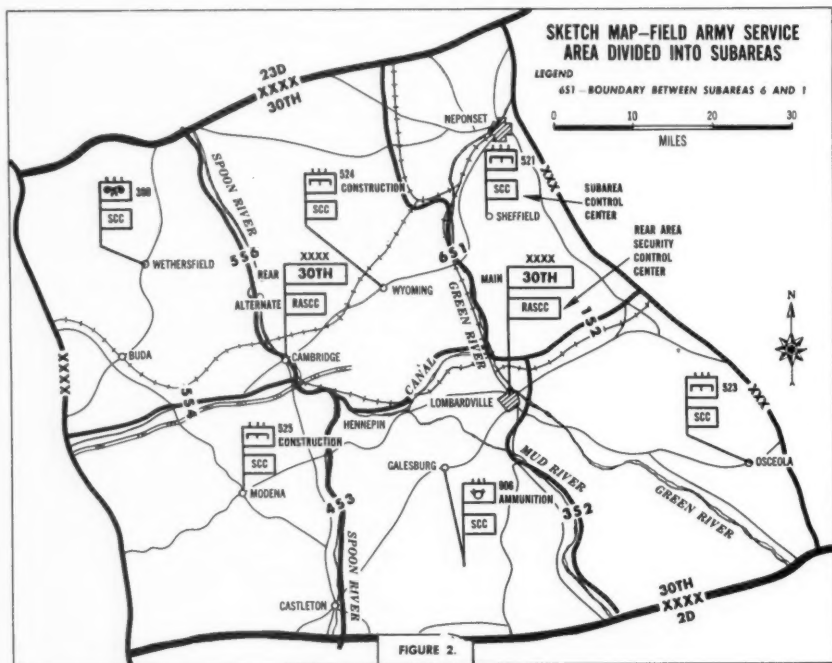
designated as required by the size of the corps rear area. When plans are implemented, subarea controllers assume operational control for rear area security/rear area damage control in the same manner as do subarea controllers in the field army service area. With exceptions indicated,

doctrine at the corps level is identical to that of the field army. Also, as in the case at field army, the system is manned and equipped on an improvised provisional basis and not supported by existing TOE.

Within Division

In the armored and infantry divisions the division trains commander is assigned

plans. The division trains commander, in conjunction with operations elements of the division trains staff working in the DLCC; representatives of personnel, logistics, civil affairs sections of the division staff; and representatives from other units and the technical services, does the planning for rear area security/rear area damage.



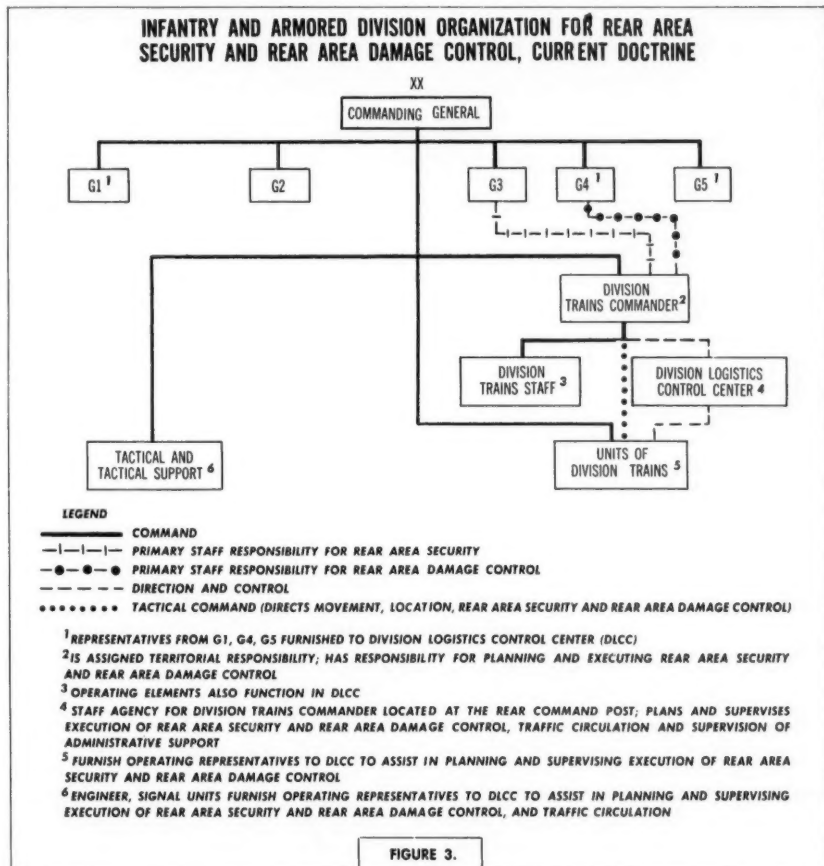
territorial responsibility for the division's service area as delineated by the division commander. (Figure 3.) He is in charge of the division logistical control center (DLCC), and has control over administrative support units for security and movement but not for their primary administrative support mission. The DLCC coordinates detailed administrative support activities including execution of rear area security/rear area damage control

age control and coordinates these activities with other aspects of administrative support. In the airborne division, the support group commander actually controls the division logistics operations center (DLOC) and commands logistical support and rear area security/rear area damage control units in the division service area. The support group commander does not control administrative units such as those involved in personnel operations.

Analysis of Current Doctrine

The separation of responsibilities for the various interrelated and interdependent administrative support operations at all command echelons among a number of

At the TAZ level there is a division of administrative support responsibilities among the directors of the logistical command staff. The director of services and the director of supply and maintenance are



staff officers requires unnecessary coordination and delay at the staff level. It also results in units receiving instructions for their roles in rear area security/rear area damage control which conflict with directives for execution of their primary tactical or administrative support missions.

concerned with the provision of logistical support to the combat forces and the logistical command. The directors of civil affairs and the director of personnel are concerned with the provision of their portions of administrative support to the logistical command. The director of security has staff

responsibility for rear area security and rear area damage control but responsibility for integration and coordination of these functions is accomplished in conjunction with the director of plans and operations.

Since no specific coordination facility is provided, it is possible and even probable under such an arrangement for the same unit in the TAZ to be called upon to perform competing administrative support functions simultaneously. Over-all supervision by the deputy commander tends to reduce conflicts but does not eliminate the need for a specific control center to ensure unity of effort and efficient employment of means.

At field army level staff relations and command lines for rear area security, rear area damage control, and other aspects of administrative support are even further complicated. Responsibility for these functions is fragmented, and the rear area security controller is not in a position to issue necessary security-damage control orders without interfering with primary administrative support missions and the responsibilities of several general staff officers. There is no single commander designated for all three functions in the same geographic area. Thus there is no source of authoritative decision, short of the force commander, to establish—for the employment of administrative support elements—relative priority between rear area security/rear area damage control and continuation of the normal administrative support mission.

Coordination is a weak reed on which to lean, and coordination channels currently established for rear area security/rear area damage control and administrative support between the improvised rear area security controller, G3, G4, G1, and G5 are no exception. At best they are awkward, ineffective, and time consuming. Improvised command and control arrangements for rear area security/rear area

damage control are ineffective because they lack the clear lines of authority and the staff, communications, and training necessary to carry out the required tasks.

At corps level the system for rear area security/rear area damage control is similar to that of the field army. It has the same deficiencies with the added complication that no specific controller or control facility is provided; thus the danger of confusion and conflict is magnified. Further, the corps headquarters does not possess the authority to ensure effective rear area security/rear area damage control operations because the majority of the administrative support units normally located in the corps rear areas are actually field army troops. These units report to field army for their primary mission of administrative support and to corps for rear area security/rear area damage control missions.

In the infantry and armored divisions the use of the division logistics control center (DLCC) has resulted in some improvement for rear area security/rear area damage control. Since the division trains commander is in charge of the DLCC and coordinates the execution of rear area security/rear area damage control with other administrative support activities, the chance of conflicts has been reduced. However, the same fragmentation of responsibilities exists on the division staff level as that which exists in the staffs of higher echelons. Since no centralized staff control facility exists, there is a constant possibility that the division trains commander will receive competing and conflicting instructions. Another important factor is that although current concepts call the trains commander a "commander," his authority over administrative support units extends only to security and movement. This discrepancy has been corrected to a considerable degree in the airborne division. Here the commander of the support group controls the DLOC

and commands the units in the division service area which provide logistic support, local security, and rear area damage control.

The above analysis indicates that there are essentially five major deficiencies in current concepts for rear area security and rear area damage control.

1. The staff relationships on the general staff level are conflicting.

2. Administrative support units do not report to the same superior, short of the force commander, for their interrelated and competing missions of rear area security/rear area damage control and other aspects of administrative support. There is no single line of command authority and staff responsibility necessary to any effective execution of related functions.

3. A fixed line of authority, operations facility, or communication means are not provided to carry out the rear area security/rear area damage control function.

4. Improved means provided for these missions are superimposed piecemeal on the existing structure, and require additional means which could better and more economically be used to provide a single more responsive system for the operations and activities involved.

5. Current doctrine, both operational and organizational, is not adequate to ensure effective accomplishment of rear area security/rear area damage control and an administrative support system compatible with nuclear warfare.

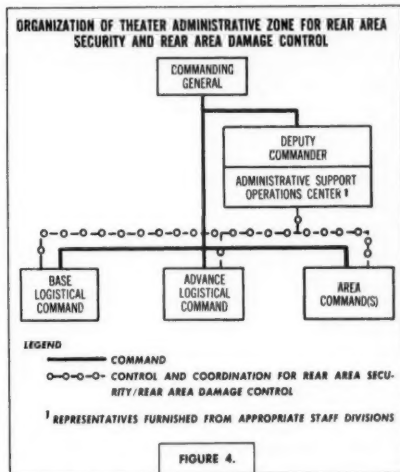
A Solution

The major deficiencies attributed to current doctrine and organization for rear area security and rear area damage control can be overcome by a reassignment of staff responsibilities, provision of permanent means for executing required missions, and ensuring that there is a single authoritative command and control superior. With this statement the question immediately arises, "fine words but just how can this be accomplished?" The answer,

stated in broad terms, could be simply that evolutionary changes in both the staff and command arrangements will accomplish this adequately. However, it is felt that the reader is entitled to a more specific answer related to the various echelons previously discussed.

A Solution for TAZ

Considerable improvement can be effected at the TAZ level by providing a centralized means for the control, coordination, and integration of rear area security/rear area damage control and other administrative support operations. (Figure 4.) This could be accomplished by



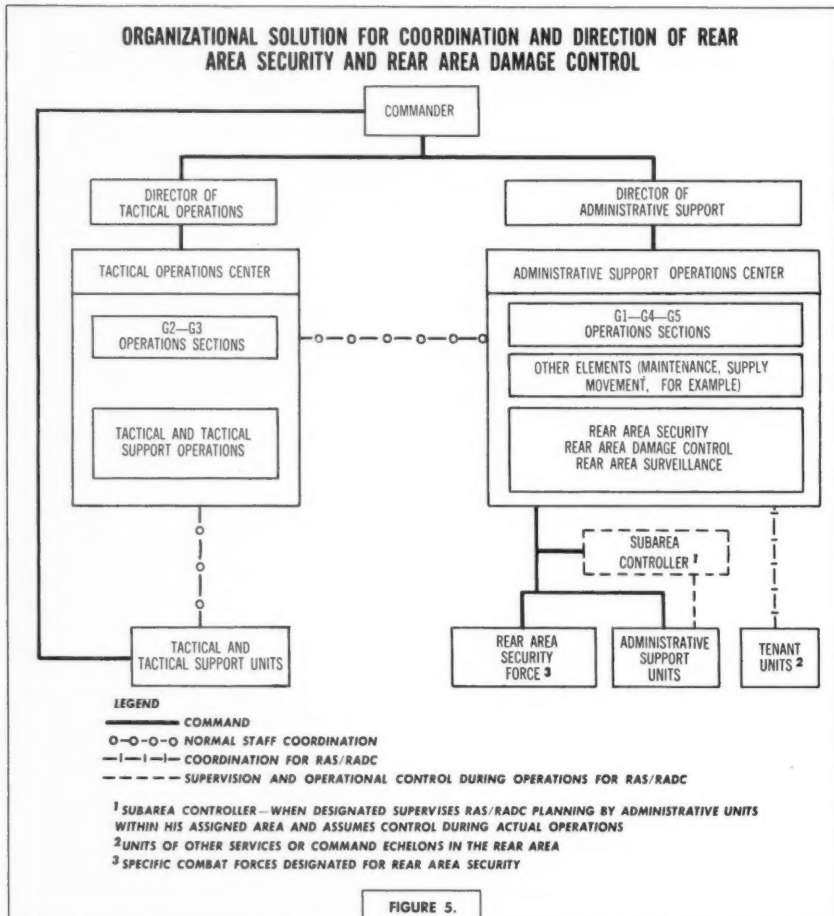
establishing a staff facility similar in concept to the tactical operations center (TOC) which would control and coordinate administrative support operations in the same manner as the TOC controls tactical operations.

This administrative support operations center (ADSOC) would be placed under the direction and control of the deputy commander of the logistical command. The current director of security would continue to be the immediate staff officer re-

sponsible for rear area security and rear area damage control. However, the AD-SOC, containing representatives of the directors of personnel, security, plans and operations, services, supply and maintenance,

and coordinating of rear area operations to include radiological activities.

The above proposed organization of the TAZ staff and provision of a centralized



nance, and civil affairs, as well as representatives of the technical service staff sections, would act as a centralized nerve center of the staff to assist the deputy commander. It would facilitate planning, di-

staff facility with which to control rear area security/rear area damage control operations would considerably reduce the possibility for assigning of competing missions by the various directors to the same

administrative support units, and would provide a common superior short of the commander to ensure responsiveness to changes in the situation and the needs of the combat forces.

Field Army, Corps, and Division

At the field army, corps, and division levels changes similar to those for TAZ would eliminate the major deficiencies now existing. (Figure 5.) These changes can initially be implemented with minor adjustments in personnel and equipment within the respective headquarters as now constituted. It is not considered necessary to provide any augmentation of personnel and equipment over that currently authorized. An administrative support operations center (ADSOC) should be established at the division, corps, and army rear command posts. The ADSOC at these command levels would have the same general functions of the ADSOC at the TAZ command level. It would function as an integrated staff facility for the coordination, control, and integration of rear area security and rear area damage control and other administrative support operations. This staff facility would be placed under the supervision of a director of administrative support (DAS) so as to provide a common superior for the administrative support staff groupment which would include G1, G4, G5, and representatives of the technical services.

In addition to his staff functions the director of administrative support would be delegated authoritative control over all assigned or attached administrative support units and such combat units as may be provided to assist in the security of rear areas. This would require assignment of rear area security responsibilities to the DAS but this does not conflict with the over-all responsibility for tactical operations exercised by the operations side of the staff. This procedure simply replaces the current requirement of the G3 to coordinate directly a number of small adminis-

trative units. It replaces the RADC and RASCC at field army, the RADC at corps, and the DLCC or DLOC at division and eliminates the trains (support group) commander and rear area security controller who have little knowledge of or authority over the primary administrative support operations of the command. This would not change the responsibility of the G3 and operative staff for enemy threats to the rear area of such magnitude as to become a part of the main battle and, therefore, beyond the scope of rear area security measures.

In his capacity as an assistant to the DAS, G4 should continue to exercise coordinating staff supervision over rear area damage control operations. This will result in the consolidation of authority, responsibility, and control of the means for all administrative support operations under one authoritative individual (the DAS) physically located in the area of expected activity, and would free the army, corps, or division commander from detailed supervision of administrative support activities and the included rear area security/rear area damage control operations. Such action would permit force commanders to concentrate their attention on their primary function of planning, executing, and controlling tactical operations. This solution would place related but competing activities under a single authoritative head. In addition, it would ensure closely coordinated centralized control, speed staff reaction time, and increase responsiveness to changing situations and needs of the combat forces.

Summary

Current rear area security/rear area damage control doctrine is inadequate. It provides for neither adequate staff and command control means nor clear lines of responsibility. In order to preclude interruptions of administrative support operations or reduce such interruptions should they occur, clearly defined responsibilities

and centralized control must be established at all command echelons. Staff reaction time must be speeded up and responsiveness to the needs of subordinate units enhanced. All administrative support and other designated units must report to the same superior for their rear area damage control/rear area security and other administrative support missions.

Finally, clearly defined staff and geo-

graphical responsibilities must be established so as to minimize overlapping and competing responsibilities of staff officers, reduce the possibility of misunderstanding, avoid confusion, and provide a centralized, coordinated means of controlling troops and installations in their performance of rear area security/rear area damage control and other administrative support missions.

People have been so mesmerized by the vision of a mushroom cloud that they have discarded without further thought any suggestion that the soldier on the ground could survive in such a conflict, not to mention the idea that he might play an important part in determining the outcome.

Contrary to this view, all studies, analyses, and field tests aimed at the assessment of doctrinal concepts designed for the battlefield of the future, such as those carried out by the Army's Combat Developments Experimentation Center, have made one fact increasingly clear. That fact is that, far from losing his importance in modern war, the individual has become more important than ever.

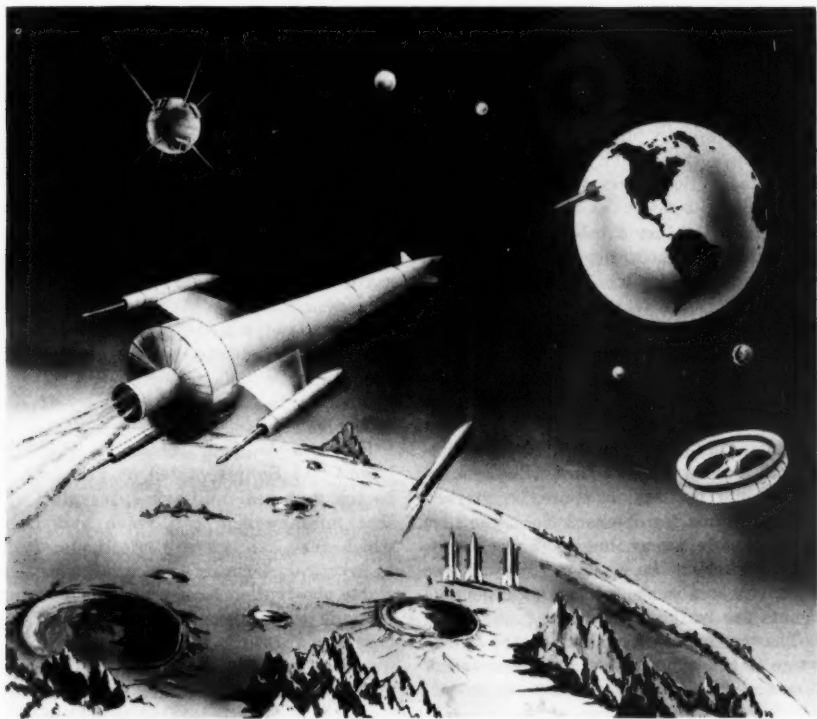
In supporting this conclusion, we must recognize that one of the fundamentally important effects of the great increases in the range and destructiveness of modern weapons is to make it essential to disperse forces on a wide scale and in comparatively small units. We have modified and are continually reviewing our tactical organization to improve our capability to meet this requirement. We are constantly striving to improve our means of communication and battlefield mobility so as to permit the rapid concentration of our forces to exploit the blows of our weapons and their rapid dispersion again before an enemy could react with blows of his own. We can expect that, much of the time, relatively small units will be operating independently or semi-independently.

In such a situation, infiltration by both sides will be fairly commonplace, with the result that there will no longer be a 'line' of contact in the sense that we have known it up to now, but a deep battle 'zone,' in which units will find it necessary to operate in any direction. Despite our improved communications, individual commanders even of small units can be expected to find it necessary to act promptly and vigorously on their own initiative in order to meet the threats which develop.

General Lyman L. Lemnitzer

OUTER SPACE AND NATIONAL DEFENSE

Lieutenant Colonel Robert B. Rigg, *Armor*
Combat Developments Group, U. S. Army Armor School



NO ONE laughs at it today, but many decades back New Yorker's snickered at Peter Cooper's "hole." Creating his own airspace in a building, Cooper was readying a form of space ship—the passenger elevator.

Today, with satellites in space, we are not laughing at future outer space vehicles, but some persons are a little hard pressed to see the relation between this awesome outside realm and international

relationships here on earth. Yet outer space someday will be very closely related to the earthbound aspects of national defense.

Years ago Sir Winston Churchill remarked that if military men were given free rein, "they would fortify the moon." Last year Air Force General Homer A. Boushey, stated that a lunar military base someday will be vital to national security, that in one sense "the moon represents the

age-old military advantage of 'high ground.'" He is one of the many uniformed American leaders seriously thinking in terms of the military relation of outer space to the earth and human events thereon. While there is perhaps no unified agreement in American military circles on the concept that "he who controls the moon controls the earth," nevertheless, there is well-grounded agreement that vital military keys to our future national defense lie in outer space. One of those keys lies on the moon. Some persons will be quick to contest this concept as "Buck Rogerish thinking." But they are wrong.

At the moment outer space is uncrowded, and the only major trouble about this airless realm is the technical one of getting up there. On a future tomorrow, however, outer space is going to be relatively crowded, and there are likely to be some international troubles connected with space conquest and competition. How high up and how far out do the defensive boundaries of nations extend? How will these international borders in space be marked and monitored for defense? No one is sure of the answers now, but in the next few years there will be some testing of these questions because new forms of espionage agents are in the offing.

The territories of all nations are on the verge of being spied upon by these various forms of future earth reconnaissance sat-

—a remote-controlled armed conflict—is even a possibility there.

Moon Fortifications

Remote and fantastic as it may sound, arming the moon with missiles and intercontinental ballistic missile (ICBM) warning devices is a distinct military possibility for the future. Properly armed, the moon could add a much needed, new defensive-offensive power to the free world's security system as it pertains to the future ICBM threat.

Children born this year may, in 20 years, look up at the moon not necessarily as a romantic reality but as a military reality saying, "Peace on earth rests with the men on the moon." Offhand, this sounds a bit overspeculative, but the military facts of life today indicate that the moon shows promise of becoming a new military reality within the next two decades—if not sooner.

How can the moon become so militarily important? Simply stated, it promises to be the first real military space platform that military men can reach and from which they can operate effectively. It is a practical form of space platform—a stable observation base, and a bit of "high ground" that presents the ideal military base for a future United States or free world police force that *could* monitor and maintain a form of peace on earth and

A vital key in our future national defense, the realm of outer space is on the verge of providing new facets of military power that can alter the proportion and scope of many earthbound military operations

ellites. Will some countries resent this invasion into territorial privacy? If they do, what can they do about it? Knocking another nation's sky-spy satellite out of orbit may sound fantastic but it is within the realm of future possibility. It seems evident that not only could the cold war be carried into outer space, but hot war

protect nations from total nuclear aggression.

In the ICBM age to come the moon offers a military base that could provide a significant deterrent to general nuclear war: a war whereby aggressive nations could unleash deadly missiles with warheads capable of blasting another conti-

ment within 30 minutes from the pressing of the launch signal. However, the moon offers a potential retaliatory-defensive base that could effectively deter such ICBM aggression; it also offers a secure base from which to destroy an opponent if he chose to fight "the senseless war"—that is, intercontinental war waged with nuclear weapons and used against homelands. But how? If we and our allies were to pool our scientific and military resources and place a large portion of our nuclear weapons on the moon, Soviet Russia or any potential Communist aggressor would—if they chose this form of warfare—have to launch an overwhelming assault against our moon-based missile and observation units. *This would have to be accomplished two and one-half days before hurling ICBM's against our cities on earth.* Here would be a built-in defense warning because such earthly missile launchings against the moon could not go undetected from the earth.

Approximately 239,000 miles away, the moon rotates so that half its surface always faces the earth—and the opposite side never does. So a retaliatory or defensive missile launched from the moon could be observed and guided from its lunar platform. However, missiles fired from the earth to the moon would require many tracking and guidance stations. Further-

more, as General Boushey points out:

A missile attack launched from the earth to the moon could be observed from the moon, with perhaps 48 hours to take counteraction. Even if a nuclear detonation occurred near, or on the lunar surface, there would be no blast effect since there is no atmosphere, and protection against thermal, X-ray, and neutron radiation would be easy for there would be many hours' warning to compute lunar impact locations and for personnel to go underground.

One might ask, "How do we know we could militarily 'dig in' on the moon?" We do not. However, the moon is about one-quarter the diameter of the earth; it is believed to have minerals; and, until proved to the contrary, we must assume that it is made up of elements similar in part to those of the earth.

A lunar military base has other built-in advantages. Since missile speeds for approach and lunar impact would be far less than those for earth type impacts, the antimissile defense efforts from the lunar base would, therefore, be comparatively easier.* Furthermore, moon outposts and launching sites, offensive and defensive, could be located on the far side of the moon—a side never seen from the earth. However, earth side locations and activities could be viewed from the moon by telescopes. Science indicates today that earth objects less than 35 yards long can be observed from moon distances with lenses of moderate size. In addition, the lack of any appreciable atmosphere around the moon makes it ideal as a military and scientific observation site and communication relay base. Obviously, the lack of atmosphere coupled with other factors will provide disadvantages which can handicap the establishment and operation of military units. All things considered, how-

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* General H. A. Boushey, "Lunar Base Vital Says AF General," the Army-Navy-Air Force Register, 8 February 1958.

ever, it appears that a militarily manned moon will be an eventual must for international peace purposes. It is vital that the free world stake out a position on that sphere in space.

The race for the moon already is in evidence. Soviet newspapers are writing about a rocket flight to the moon—using rockets fueled by chemicals. And the Russians already have made it clear that they plan to make a permanent settlement on the moon. This was brought out by the Soviet five-reel color film, *Road to the Stars*, which was supervised by top Red scientists and predicted among other things that the Soviets plan to get to the moon, and also use it as a jumping off place to explore space farther.

The moon should be big enough for all earth-nations capable of placing men there. Certainly, the moon is the private property of no nation, but the first one there will enjoy not only scientific, but later military advantage. If we place defensive weapons there, we will have distinct deterrence advantages and a new measure of early warning time.

Formula for Defense

Suppose, however, both the Communist and free world military bases are established on the moon. What can happen? Remote as it may sound, "terrestrial" clashes then could occur on the cratered terrain of the moon if one side chose to liquidate the military and scientific forces of the other locally. Here would be land warfare transplanted on a new planet. Who would win? Presumably, the best equipped and the best supported, because earth side reinforcements would become vital to such a struggle. Although this is far off, it is, nevertheless, a possibility and should deserve consideration in our military planning. Like it, acknowledge it or not, outer space has a definite relation to our national defense.

The true formula for the future defense of the free world against total nuclear

warfare rests on a revolutionary system of early warning and retaliation that is free from the limitations and restrictions of our present earthbound systems. The formula lies in the military use of outer space and the moon. At the present time, rockets and missiles are on the verge of eclipsing earth spaces in such short time lapses that earthbound defensive measures against them appear most difficult to achieve. The ICBM is a case in point. While such future antimissile weapons as the *Nike Zeus* promise a good defense, nevertheless, there is urgent need for a more complete defense with which to protect the free world against the senseless war. This type of defense lies in outer space because if we can place military weapons, instruments, and forces there first, we can successfully counter communism's future threats since our weapons, instruments, and forces could not all be surprised in a half-hour period.

The old warnings of aggression were manifest by military mobilization on land frontiers, political warnings, and rumors that vacillated between capitals. While Hitler never hid his military mobilization, he shrouded his troop formations of the last minute—and his over-all intent. But this day has passed. We are entering a grim era where weapons can be launched without mobilization orders or visible warnings—launched from the sleek metal panels of hidden electronic consoles to span oceans and cremate cities—if they hit squarely. The most militarily vital fact is that these weapons—the ICBM's—can "come in" with only minutes of warning.

Communist ICBM's are warnings that we cannot completely rely upon in the future—earthbound warning systems and earthbound retaliatory defense systems. Clearly, then, it is incumbent upon us to consider sky space seriously for a new means of military defense.

There are those who would scoff at the idea of using outer space for Western de-

fense. "Impossible" or "too difficult" they say, or "fantastic." These are the men who would choose earthbound electronic Maginot lines which, if thoroughly manned and equipped, would be costly in a most monumental sense—and what would they buy in the 1970's? They would buy simply precious minutes of warning time for earthbound defense forces.

Satellites and Space Stations

Beyond the near future ICBM's lie potential space weapons—orbiting platforms armed with missiles which can be released to strike the earth. Remote though this type weapon appears, it is given credence by some present-day authorities who are anything but visionaries. For example, Army General Austin W. Betts has stated that there is no reason why the Soviets cannot construct an H-bomb satellite which could drop from the skies without warning to blast an earth target:

I have no doubt it could be the next kind of a weapons system which could be in being.

We know that they (Russians) can put up a satellite. We know that this satellite can have ultimately the weight-carrying ability of the nose cone of an ICBM. There is no reason why they cannot place a satellite in orbit which has a warhead in it and constantly circles the earth until they . . . send it a signal which would tell it to come in on target.

While far out on the horizon of time is the day when manned space stations and strategic striking satellites will be placed in the sky, nevertheless, military planning must start to develop defenses against weapons of this type. Strategic striking satellites would be extremely dangerous weapons because being unmanned they would rely on radio signals to trip off and launch their warhead cargoes earthward. There would always be the possibility that an inadvertent signal on the same frequency—and from an outside source—

could trigger off one of these satellites and cause it to unleash its lethal load. This is just one of the possible problems of military nature that could plague nations in the future. Certainly, as men probe outer space more, their military defense problems will multiply because outer space will become increasingly related to armed conflicts on this earth.

Space and National Defense

Just as men are only beginning to fathom the great space beyond our atmosphere, so are we just beginning to recognize some of the implications that this realm will have on our earthly international affairs. While there are many unknowns in this connection yet to be probed, the relationship of outer space to national defense may, at this moment, be summarized as follows:

1. Outer space will provide the medium through which military warning times can be increased; in consequence, earthbound warning systems, as they pertain to ICBM type warfare, gradually will be rendered obsolete.

2. Space reconnaissance devices will lay open many earthbound military secrets formerly protected by territorial boundaries.

3. Outer space will offer a new realm for the conduct of international cold war and for general nuclear warfare.

4. New mediums will be opened through which general nuclear war can be deterred.

5. Since no definable defense boundaries for nations are apparent, the country or military alliance strongest in military space technique can dominate the outer realm and also influence international affairs on earth.

6. The realm of space appears to offer a military moon base which can have direct deterrence or fighting value in a full-scale terrestrial conflict with nuclear weapons.

7. Outer space eventually will provide earth weather data, communication relay,

and other facilities and techniques on a new scale that can alter the proportion and scope of many earthbound military operations.

8. Relatively unreachable military bases to the side most advanced in space technology will be provided.

Conclusion

At the present time, man's first messages from outer space are bleeping in. Man's next step will be to conduct a series of searching surveys of the earth by satellites. As a result, the globe and its continents will be mapped with more precision than ever before in history, and

this new accuracy will be of great value to the growing stable of intercontinental ballistic missile systems. Concurrently, weather will be surveyed and studied from outer space by special reconnaissance satellites. In consequence, defense efforts will be served by new and valuable data. Outer space is on the verge of providing armed forces with new facets of military power. This great realm is not alone a challenge, but a serious warning that its great depths must be probed and exploited by the free world technology if any earthbound peace is to be achieved. Outer space is a vital key in our future national defense.

Today, our success in space may depend on an expanded ability to place earth satellites in orbit and eventually to approach the surface of the moon with an instrumented vehicle. Reliability is a critical aspect of all of these efforts and one on which we all must exert greater emphasis. . . .

There must be a willingness to accept new ideas and an uncompromising attitude toward eliminating unproductive projects. The greatest plans of the most talented people won't work if they lack two basic ingredients—aggressiveness and enthusiasm. These two factors must be an intimate part of our daily work. . . .

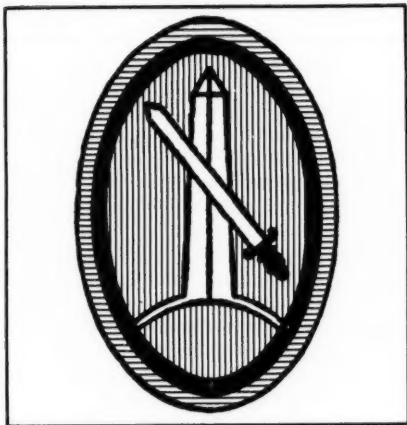
If the Russians landed on the moon tomorrow, could they claim it for their own? Would we be in a conflict for years to come over this exploration? This would seem to call for an international movement through the United Nations to establish laws to deal with our ventures in space. Perhaps this would have surprising results on our family of nations on earth.

Lieutenant General Arthur G. Trudeau

THE MILITARY DISTRICT OF WASHINGTON

Guardian of the Nation's Capital

Material for this article was furnished by Headquarters, Military District of Washington, United States Army.—Editor.



GUARDING the Nation's Capital and surrounding area, and providing many services to the American Military Establishment there, is a small and unique US Army command: the Military District of Washington (MDW).

MDW was created in 1942, replacing a number of separate military organizations with one unified command. As with the six numbered Army commands within the Continental United States, it has responsibility for the administration, operation, training, and supply of all units within its geographical area. In addition, however, MDW supervises certain military

activities throughout the world and performs distinctive functions peculiar to the site of National Government.

Geographically, the Military District of Washington embraces an area including the city of Alexandria, and Arlington, Fairfax, Prince William, Stafford, King George, and Westmoreland counties in Virginia; Montgomery, Prince Georges, Charles, Calvert, and St. Marys counties in Maryland; and the District of Columbia. Present headquarters are at Gravelly Point, Virginia, near the Washington National Airport.

Under the command of Major General John G. Van Houten, Commanding General of MDW, are: Fort Myer, Virginia; Fort Lesley J. McNair, Washington, D. C.; Cameron Station, Alexandria, Virginia; and Davison U. S. Army Airfield.

The Famed "Third"

Stationed at Fort Myer is the famed 1st Battle Group, 3d Infantry (The Old Guard), so named because of its status as the United States oldest active Regular Army infantry unit. Antedating the Constitution, the 3d Infantry has participated valiantly in every war in which this Nation has been concerned, particularly distinguishing itself during the Mexican War, when it was designated "The Old Guard" by General Winfield Scott.

In peacetime the 3d Infantry furnishes the military escort for such important functions as the Presidential inaugural, state funerals, parades, and the official arrivals and departures of visiting heads of state and foreign dignitaries.

The Military District of Washington is not only the guardian of the Nation's Capital, but is responsible for units within its geographical area and supervision of certain military activities throughout the world

Also among its highly esteemed responsibilities is the provision of a perpetual guard for the Tomb of the Unknown Soldier at Arlington National Cemetery. Carefully selected volunteers from the 3d Infantry guard the tomb 24 hours a day, every day of the year.

In addition to its ceremonial responsibilities, the 3d Infantry engages in field training as intensive as that of any infantry unit, and is capable of entering combat at a moment's notice.

Also stationed at Fort Myer is the United States Army Band and the United States Army Chorus, the representative musical organizations of the US Army. The band, created in 1922 by order of General John J. Pershing, has become an integral element in the continuing colorful tradition of the Army.

Adjacent to Fort Myer is Arlington National Cemetery, America's most celebrated national shrine and largest of its national cemeteries. The tens of thousands of men and women buried there represent a cross-section of the dead from America's military battles ranging from the Revolutionary War to Korea. The first funeral held there, however, did not take place until 1864 when the cemetery was established by Government decree. Afterward, the remains of earlier war dead were interred in Arlington.

Tomb of the Unknown Soldier

Focal point of the cemetery is the stately Tomb of the Unknown Soldier where the Unknowns of World War II and Korea were interred amid state and military honors on 30 May 1958. The tomb is visited daily by an average of 4,500 persons who view its simple 12 word inscription, *Here Rests In Honored Glory An American Soldier Known But To God*, which now remains unchanged although a trinity of dead heroes are buried there.

Fort Lesley J. McNair, situated in southwest Washington, D. C., was at one time known as "The Washington Barracks"

and before that as "The Old Arsenal."

It is the home of the National War College, the Industrial College of the Armed Forces, and certain Strategic Intelligence Research Teams assigned to the Department of the Army.

The National War College and the Industrial College of the Armed Forces are superior level military schools for senior military officers. The schools, under supervision of the Joint Chiefs of Staff, prepare high ranking officers of all services for command and staff duties in the highest echelons of the Armed Forces.

Cameron Station and Walter Reed

Cameron Station is a communications center and central supply depot housing many service organizations, such as the U. S. Army Heraldic Services Division which designs flags, coats of arms, seals, medals, and insignia for Army units, and the Packing and Crating Unit which crates and ships overseas household possessions of eligible enlisted men and officers being assigned abroad.

It also is the home of the largest military commissary in the world, of the *Army Information Digest*, and of the U. S. Army Exhibit Unit which shows Army displays and exhibits throughout the United States.

Davison U. S. Army Airfield, located near Accotink and Gunston Hall, Virginia, is charged with the mission of providing air support to the Department of the Army.

In the event of floods, blizzards, and other emergencies, its facilities often are used to perform many vital—often life-saving—missions.

Also within the boundaries of the Military District of Washington are Walter Reed Army Medical Center, in Washington, D. C., and three medical installations at Fort Belvoir—De Witt Army Hospital and two strategic reserve field hospitals.

Walter Reed Army Medical Center is the home of the world-famous Walter Reed Army Hospital and is one of the re-

search centers of the US Army, at which studies currently are being made in pathology, prosthetics, vascular surgery, and other important areas of medical investigation.

Pentagon

In addition to maintaining the installations discussed, the Military District of Washington is responsible for the servicing and security of the Pentagon, nerve center of the Nation's Armed Forces.

The Pentagon is managed by the Army Headquarters Commandant who is responsible for: the traffic control of 10,000 automobiles belonging to the 30,000 civilian and military personnel who work there; for the many valuable and historically interesting properties displayed in the Pentagon; for arranging Medal of Honor presentations; for the U. S. Army Motor Center; and for the Armed Forces Service Center.

The Motor Center provides transportation for the Department of the Army and other military agencies in the Washington area, the Chief of Staff, the Secretaries of Defense, Army, Navy, and Air Force, and other important military personnel.

The Armed Forces Service Center is the military equivalent of a travel agency, set up to assist military and special civilian personnel with arranging for services such as travel, baggage, dependent moving, housing, hotel accommodations, passports, and insurance.

Additional Functions

MDW also has many responsibilities beyond the managing of installations in the Washington area and performance of "housekeeping" chores for the Pentagon.

It is charged with arrangements for the arrival and departure ceremonies accorded distinguished foreign visitors—heads of state and military leaders—in addition to wreath-placing ceremonies at the Tomb of the Unknown Soldier, all of which demand a great deal of meticulous planning.

Among its ceremonial tasks was the coordination of all activities attendant upon the Interment of the Unknowns of World War II and Korea.

Arctic Test Center

A geographically distant responsibility of MDW is the supervision of the First Arctic Test Center at Fort Churchill, in Manitoba, Canada, jointly run by the United States and Canadian Armies. This post provides the Armed Forces with a center for experimental research on the behavior of military equipment and matériel under Arctic climatic conditions.

MDW also exercises worldwide court-martial jurisdiction over Army attachés and their staffs overseas.

However, despite these varied services—and many others which seldom come to the attention of the general public—the Military District of Washington exists primarily to defend the Nation's Capital, and although during peacetime its tactical role is not great, in time of war it is upon the personnel of MDW that this great burden falls.

During World War II the tactical force of the Military District of Washington was equivalent to a combat division, constituting a unified command with elements from the Army, Navy, Marines, Air Force, and Coast Guard.

Heraldry

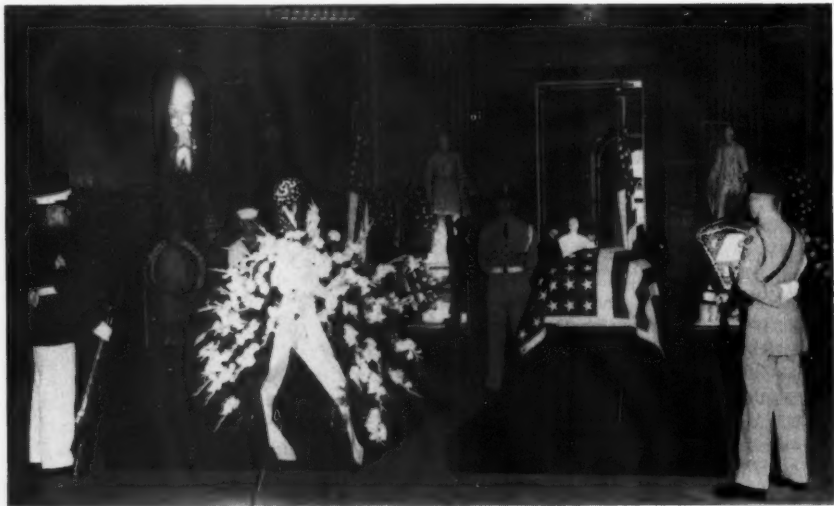
MDW's official sleeve insignia reflects its defense responsibility: a blue oval, roughly three inches high, bordered in red, displaying a white replica of the Washington Monument, upon a green mound. Midway on the shaft of the monument a red double-handed sword with hilt and pommel of yellow gold is superimposed obliquely.

The Washington Monument symbolizes the military domain of MDW—and the sword symbolizes protection of this locale.

The official United States Army photographs in this article portray only a limited scope of the varied responsibilities of this important command.



Above, members of the 1st Battle Group, 3d Infantry, Fort Myer, Virginia, participate in an honor ceremony for General Paik Sun Yup, Chief of Staff, Republic of Korea Army, in March 1958. With General Paik, left to right, are General Lyman L. Lemnitzer, Vice Chief of Staff, US Army, and Lieutenant Colonel Robert E. Phelps, 3d Infantry. Below, military personnel stand guard in the US Capitol rotunda before the Unknown dead of World War II and Korea before their interment at Arlington National Cemetery, Washington, D. C.





Above left, a drill team of the 1st Battle Group, 3d Infantry, demonstrates weapon control as they toss rifles with fixed bayonets into the air. Above right, Her Majesty Queen Elizabeth II and Prince Philip are escorted by Major General John G. Van Houten, Commanding General, Military District of Washington, in a visit to Arlington National Cemetery in October 1957. Below, soldiers of the 1st Battle Group, 3d Infantry, hold the colors over the casket of an American fighting man at Arlington National Cemetery, Washington.





Above, soldiers stationed at Davison U. S. Army Airfield, Fort Belvoir, Virginia, make last minute checks on a helicopter. Below, a language instructor introduces soldiers and civilians to the intricacies of Russian. The Military District of Washington sponsors a variety of courses for members of all the services and for civilians at the Pentagon.



"THE JUST MAN ARMED"

Theodore Roosevelt on War

Dr. Robert W. Sellen

Assistant Professor of History and Political Science, Baker University

"SEEK the peace that comes to the just man armed, who will dare to defend his rights if the need should arise." These words were spoken by Theodore Roosevelt in May 1907, when he dedicated a statue of General George B. McClellan, and they expressed succinctly his thoughts on the use of force in international affairs.

So dazzling was the glow of Roosevelt's personality and so skillful was his dramatization of himself and his beliefs that almost all the world knows of the "Big Stick," of the sudden acquisition of Panama, and of "trust-busting." However, perhaps because of the later fame of Woodrow Wilson's ideals, Roosevelt's intellectual side has been ignored and attention focused on his deeds. After all, his friend Henry Adams said of "T. R." that he was "pure act."

Boisterous but Studious

Actually, Roosevelt was a profoundly thoughtful man and probably one of wider reading and knowledge than the scholarly Wilson. While entrained with his boisterous Rough Riders between San Antonio and Tampa he read Demolins' *La Supériorité des Anglo-Saxons*. His contacts were wide, in this country and abroad, including cabinet ministers, ambassadors, members of parliaments, writers, soldiers,

scholars, and, most famous of all, Kaiser Wilhelm II.

The basis of Roosevelt's thought was a kind of Darwinism. Life, for him, was a struggle in which individuals and nations succeeded or were ruined according to their efficiency in the fight. A land such as China, he reasoned, with its insuperable burden of a huge and rapidly growing population, was bound to fail without help, while the better endowed and more efficient peoples of England, Germany, and the United States held in their hands the future of mankind.

Being a perceptive man, Roosevelt was well aware of what moved nations to action. Cold, calculated interest often was behind their deeds, but just as important were emotional factors such as pride, ambition, and suspicion. It was because of this realization that Roosevelt worked as hard as he did to preserve as much as he could of the Kaiser's self-respect and that he was himself suspicious of the motives of Germany and Japan. Even Britain, cordial as she was, could not, in Roosevelt's estimation, be counted on as a friend in all circumstances.

Since the international scene resembled to some degree a jungle where a veneer of politeness and decorum only faintly obscured a struggle for power, Roosevelt

Theodore Roosevelt—warrior-statesman—advocated the necessity of preparation for war in time of peace and insisted that his country be strong enough to win the glorious future which he believed awaited it

saw that it was absolutely essential for any nation which aspired to attain or keep greatness to be at all times fit for its part in the battle. This national efficiency de-



Library of Congress Photograph
Theodore Roosevelt

ended on two principal factors, at least so Roosevelt thought: physical strength and moral toughness. At all times after he reached maturity, but with particular

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vigor during his presidential years, he worked and preached to secure these qualities for his country.

Roosevelt foresaw a glorious future for the United States, envisaging her as "the mightiest among the peoples of mankind," and worked to make that greatness a fact as well as a dream. Strength and a tough moral fiber were vital because war was not always avoidable in "this very human world." Roosevelt hoped that most of the Western Nations had progressed far enough along the path of civilization to be able to settle their disputes peacefully, but insisted that some matters were so important to national honor and interest that they could not be submitted to arbitration. Peace, for Roosevelt, was always second to "righteousness" and he stoutly maintained that when the cause was just there could be no compromise.

Final Instrument—War

War was thus the final instrument of foreign policy, not to be used until cajolery, friendship, and threats had failed, but yet the highest expression of the national spirit. War was the most essential aspect of foreign policy because in resorting to it a nation avowed that the issue at stake was so vital that prosperity, honor, and perhaps even national existence were wagered on the outcome of a trial by arms. Roosevelt as President did not lead his country into war, being too skilled a diplomat to think any of the problems he faced serious enough for such a step. However, his views on war and his plans and preparations for it throw some light on his conduct of foreign policy, as well as forming an interesting chapter in the military history of the United States.

In June 1884, heartbroken by the death of his young wife and bitter at political reverses, Roosevelt went West to live at a ranch in Dakota Territory where he had hunted and in which he invested most of his capital. He arrived an eastern dude, crying out to his cowhands to "hasten for-

ward quickly there." Despite flamboyant costumes he soon adapted himself to his rough surroundings, not only becoming a deputy sheriff, but knocking out a "bad man" in a saloon.

He also added to his native patriotism an aggressive spirit of adventure. In 1886, when some newspapers predicted trouble with Mexico, he offered to organize his ranch hands into a cavalry unit, and six years later friction with Chile led him once more to volunteer for cavalry service. During the Venezuela crisis of 1895 he was willing to see American ports leveled by British gunfire, rather than permit Britain to have her way, and was eager to conquer Canada.

From the time he left Harvard in 1880 until he became President, Roosevelt found time to turn out seven works of history and biography, as well as numerous magazine articles. Obviously, it was the military side of history that interested the future Rough Rider. His biography of Oliver Cromwell was so full of accounts of the Puritan leader's campaigns against King Charles, the Scots, and the Irish that it practically reeked of gunpowder. He seized the opportunity provided in his biography of Gouverneur Morris and a history of the American frontier to regret the poor showing of American troops in the Revolution and to assert that they fought far better in the Civil War, being by then "in the prime of their lusty youth."

Civilize the Uncivilized

He preached to his readers that "though it is an evil thing to . . . bluster, it is an even worse thing to flinch from a fight for which there is legitimate provocation, or to live in supine, slothful, unprepared ease, helpless to avenge an injury." The War of 1812 was his favorite illustration of the necessity of preparation for war in time of peace, although he also used a treasury surplus under Andrew Jackson and the English Civil War in attempts to arouse Americans of the 1880's and 1890's

to the need for adequate armed forces.

Roosevelt granted that the doctrine of "Manifest Destiny" amounted to a "piratical way of looking at neighboring territory," and could not justify the conduct of American frontiersmen in Texas by any appeal to international morality or law. "Mexico," he wrote, "lost her northern provinces by no law of right, but simply by the law of the longest sword" and "the result was greatly to the benefit of the conquered peoples and of everyone else. . . ." To Roosevelt it was a simple truth that any conquest by a civilized power over a less civilized or plainly barbaric people was for the good of mankind, since the former was fit to govern while the latter were not.

"The most ultimately righteous war," he wrote in *The Winning of the West*, "is a war with savages," and Roosevelt found the conflict between the frontiersmen and the Indians wholly justifiable. He granted that the backwoodsmen were a hard lot, discovered treachery on both sides, but insisted that the only alternative to our ruthless conquest of this continent was to see it remain a vast wilderness, "an unpeopled waste." This alternative he rejected, asserting that it was "of incalculable importance to civilization" that North America, Australia, and Siberia should be conquered, civilized, and made part of great nations. Righteous war was never to be avoided.

When William McKinley entered the White House in March 1897, Theodore Roosevelt became Assistant Secretary of the Navy and was for the first time in a position to translate his views into action. The gentle McKinley had shrunk from this appointment, protesting to William Howard Taft that "Roosevelt is always in such a state of mind."

Navy Gets Action

Roosevelt was indeed in a state of mind, and the Navy Department began to heave and rock with activity inspired by this

Harvardman turned cowboy and author. He bombarded the President with advice regarding a naval demonstration in force to protect American interests in Turkey, set as a problem for the Naval War College the planning of intervention in force against a Japanese attempt on Hawaii, worried about possible German aggression in the Americas, and agitated for the annexation of Hawaii, the construction of a canal in Central America, and the development of a navy superior to those of Japan and Germany. He also made sure that the fleet was as efficient as possible, for instance ordering squadron maneuvers as opposed to training merely of individual ships.

Roosevelt made no secret of his desire to see all European powers driven out of their colonial possessions in the Western Hemisphere. As usual he itched for action. In December 1897 he wrote to one naval officer that he wished there was a chance to use the fleet against "some foreign power; by preference Germany—but I am not particular, and I'd take even Spain if nothing better offered." He wanted a chance for his Navy to try itself in actual combat.

Hence when the Cuban revolt began to arouse the United States Roosevelt was ready. As early as September 1897 he presented the no doubt dumfounded President with a complete plan of action to capture Cuba and send a flying squadron to ravage the coasts of Spain. His plan was not accepted, but Roosevelt was undaunted and seized the opportunity, during the absence for a day of Secretary Long, to send his famous order to Commodore Dewey. Dewey was ordered to Hong Kong, where the commodore was to keep his squadron coaled and ready on the outbreak of war to hold the Spanish Fleet in the Philippines and begin offensive operations there.

Roosevelt said later that the Spanish-American War was "a little war, but it

was all the war there was. . . ." Obviously, no red-blooded American, especially if he wished to leave his children a name to be proud of, could avoid taking part in a real fight, and Roosevelt accepted with alacrity the position of lieutenant colonel, under Colonel Leonard Wood, in a volunteer regiment of cavalry. He modestly refused an offer of command of a regiment, explaining that it would be at least a month before he could master the science of war and by that time Spain might have surrendered.

"Column of Herds"

In 1904, corresponding with a sculptor who intended making a statue of the President, Roosevelt wrote, "It seems to me it would be better in uniform." He thoroughly enjoyed his "merest skirmish" of a war, contending later that the attack on San Juan was the great day of his life. Since Wood was soon promoted to command of a brigade, Roosevelt became colonel of the "Rough Riders" and felt that no one else could have handled them quite as he did. Certainly, the regiment displayed a nearly unique dash and originality.

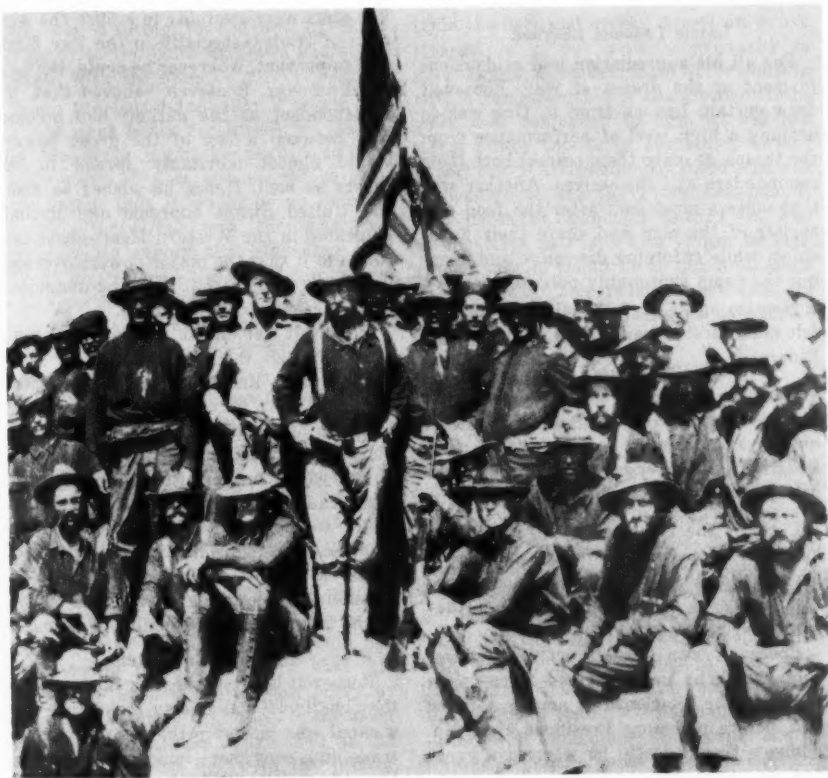
Roosevelt resorted to skulduggery to get his troops on board a transport to Cuba, where they were proud to be known as the worst horse thieves in the Army, and he personally pardoned a man convicted by a court-martial and sentenced to dishonorable discharge. When the regiment was persuaded to pass in review an onlooker described its formation as a "column of herds."

Still, there was no denying that Roosevelt and his collection of western cowhands and eastern polo players were eager to fight. He later exulted that the regiment was: . . . *raised, drilled—so far as it was drilled—armed and equipped, kept two weeks on transports, and put through two victorious aggressive (not defensive) fights, in which it lost over a third of its*

officers and nearly one-fourth of its men, and this within 60 days.

Roosevelt himself contributed to making this record. It is true that he was exceedingly nervous during his first battle, being ordered to deploy his troops, watch-

been to discover where the firing line was, while at San Juan the Spaniards' position was obvious and he knew "exactly how to proceed." He rode up and down the lines to convey orders, gradually working his way through line after line until he found



Library of Congress Photograph

Colonel Roosevelt and his Rough Riders at the top of San Juan Hill

ing them disappear into the jungle not to reappear until after the battle, and worrying that he might be court-martialed for losing them. But he learned from the fight at Las Guasimas, even if he did not enjoy it.

One of his problems in the jungle had

himself at the head of his regiment and among the Regular troops. By that time Roosevelt had concluded that it was foolish to stay down in the valley where they were exposed to Spanish fire, so he asked an officer of the Regulars why they did not charge. Told they had no orders and

that they were reluctant to accept his orders, he replied, "Then let my men through, sir." Roosevelt recorded later that the younger officers and enlisted men of the Regulars jumped up and followed him, adding, "I waved my hat, and we went up the hill in a rush."

Battle Lessons Learned

For all his appreciation and evident enjoyment of the drama of war, Roosevelt drew certain lessons from it. One was to demand a high level of performance from the troops, to make them respect both their commanders and themselves. Another was that officers must look after the food and shelter of the men and share their hardships, while enforcing discipline and keeping the camp thoroughly policed.

He also spoke of the qualities which he felt made first-class soldiers of the Rough Riders:

They were intelligent and self-reliant; they possessed hardihood and endurance and physical prowess; and, above all, they had the fighting edge, the cool and resolute fighting temper.

Perhaps the passage of half a century has made Roosevelt's words seem hackneyed and trite, but amid the confusion and inefficiency of the Cuban campaign they were a veritable beacon of wisdom.

Roosevelt was keenly aware of power—by which he meant armed force—as a factor in the relationships among nations, and, before becoming President upon McKinley's tragic death, he worried a great deal about his own country's lack of power. He was glad to see Hawaii annexed, fearing its use as a Japanese base of operations against the Pacific coast. He fretted about possible German aggression in the Western Hemisphere, feeling that if it came to war the United States would lose. He worried that the English-speaking peoples—as indicated by the poor showing of Britain in the Boer War—were losing their

"fighting edge" and hence their chance of future greatness.

The very possession of the Presidency seems to have reassured Roosevelt. Now, he must have felt, he was in a position to do something about problems of foreign policy, to turn his theories into practice. His aims were twofold: to secure the avenues of trade, especially in the Far East, and to prevent, wherever he could, the outbreak of war. Roosevelt believed that, interdependent as the nations had become, war between a few of the great powers would almost inevitably spread to the others as well. Hence he wished to make the United States supreme and unchallengeable in the Western Hemisphere and to see to it that the major powers overseas did not grow so strong as to be dangerous or so weak as to be menaced.

Roosevelt set about accomplishing his aims through the two avenues of diplomatic activity and American preparedness. As to the first, he used the Anglo-German blockade of Venezuela in 1902-03 to make plain his determination that no European power would be permitted to occupy any American state. He concocted his own corollary to the Monroe Doctrine to prevent overseas powers from using the pretext of debts to occupy or control an American Republic, and established his own control of the finances of the Dominican Republic.

Vital Steps Taken

Roosevelt later stated with fair accuracy that he "took" Panama to make sure that a canal was built for the improvement of trade and, even more important, to double the effectiveness of the United States Navy. It is only just to grant that these steps were important if not vital to American domination of the Western Hemisphere.

As far as Asia was concerned, Roosevelt did his best to protect American trade, browbeating Russia into consenting to increased American commercial activity in Manchuria and securing renewed pledges

by the great powers for support of the "Open Door" in China. Seeing both Russia and Japan as aggressive, expanding governments, Roosevelt sought to use their rivalry as a means of pitting them against each other for the protection of other states with interests in Asia. At the same time, he tried to prevent a war between them, not wanting to see one of them weakened to the point of being unable to compete with the other.

When the Russo-Japanese War did occur and went badly for Russia he feared that the Slavs might be pushed off the Pacific coast of Asia and sought to convince Japan that it would be no gain to acquire Vladivostok and the maritime provinces. He argued that this area was only an approach to the 5,000-mile bridge to Europe formed by the Trans-Siberian Railroad. Roosevelt finally succeeded in bringing the two warring powers together in a conference and in persuading them to accept the same set of peace terms. It was no small feat to preserve a semblance of a balance of power in the Far East in the teeth of Russian pride and Japanese egoism.

To Roosevelt, the result of that war marked the real emergence of Japan as a great power. He was deeply concerned over Japanese strength, fighting ability, and desire for expansion. He wrote in May 1905 that he believed we would not have trouble with Japan, but that his aim was to keep the American Navy so strong and efficient that if ever the need arose we could handle Japan, and at the same time to treat her with the utmost courtesy and friendship so that she would have no excuse for "bearing malice toward us." Roosevelt's sponsorship of the Taft-Katsura agreement of 1905, which recognized Korea as a Japanese sphere and the Philippines as an American sphere, was an indication of his wish to come to terms with Japan in order to avoid trouble.

Yet Roosevelt was not afraid of Japan,

believing American military might superior. In 1907, when tension between the two countries reached a peak over the ill-treatment of Japanese in California, he sent the American battle-fleet on a cruise to the Pacific for maneuvers and then around the world by way of Japan and Australia. This was done, in part, to train the fleet and arouse American public interest in it, but perhaps primarily to give Japan a visible sign of friendship with a reminder that if the United States were ever compelled to fight at sea her naval power was to be respected. As one aspect of the American position of strength he wanted to see the Philippine Islands well defended, although toward the end of his term in the White House he concluded that it would be to our advantage to give them their independence and end our responsibility for an area so difficult to protect.

German Emperor Balked

Roosevelt pursued in Europe the same object of preserving peace. Considering Great Britain the one foreign power with which the United States would never have trouble, he was glad of British friendship and made explicit to British leaders his strong support of the Royal Navy's superior position. He worked throughout his years in office to bring about better feeling between Britain and Germany, finally admitting that the task was hopeless and that Britons were justified in their suspicion of Germany. His aim remained that of preventing enmity from causing war.

Roosevelt's one chance to take a hand in European politics came when the German Emperor sought help in settling a dispute with France over Morocco, no doubt believing that the President's appreciation of *Realpolitik* had made him favorable to German ambitions. Roosevelt, however, saw American interest in balancing the newly formed Anglo-French Entente against Germany and hence supported France in her efforts to gain control of

Morocco. He unhesitatingly used a threat of publishing all the Kaiser's correspondence to persuade that ruler to capitulate. Roosevelt believed that the Algeciras Conference, which settled the Moroccan crisis, prevented a war which would have spread throughout the world. Whether such was the case, Roosevelt was instrumental in strengthening the infant entente which was then the only opposition Europe could offer to growing German power and ambition.

After he left the Presidency Roosevelt seems to have decided that perhaps Britain would be unable by herself to keep Europe on an even keel. He felt that the United States, becoming "more and more the balance of power of the whole world," might at some future time have to step in to help keep peace.

Prevention of War

In the autumn of 1914 he told a friend how he would have sought to prevent the World War had he still been President. He would have directed our diplomats abroad to call the attention of the European Governments to the grave concern felt by the United States "because of our own obligations," without stating what we regarded our obligations to be. This, Roosevelt believed, would have compelled those states to hesitate at least long enough to decide what we might do and the delay would have been sufficient to bring about the international conference sought by Sir Edward Grey.

Roosevelt correctly appraised the Kaiser's haste in declaring war as being motivated by recognition that war had to begin at once or not at all, since Grey's conference would have settled the Austro-Serbian dispute. Whether Roosevelt's idea would have worked can never be known, but it indicated that he was a man who reveled in the intricacies of international politics.

It is possible to find statements by Roosevelt denouncing "pointless" war and the

great financial burden of increasing armaments. From time to time he publicly called for the use of arbitration to settle international disputes, for an end to the race in armaments, and, in his speech accepting the Nobel Peace Prize, for a league of nations to prevent war.

However, the suspicion is inescapable that much of what he said was merely for public consumption. Roosevelt abhorred the thought of war among the great civilized powers, but was not at all reluctant to see fighting between one or more of them and what he called barbarous nations (which today we would term "underdeveloped"). He did not want to see the civilized states disarm unless the "despotisms" also gave up military power. As a result, his efforts toward disarmament were singularly weak for a man so vigorous in the pursuit of his aims. By 1909 he agreed to suggest limiting armaments only because he was indebted to Andrew Carnegie for financial aid in his African safari.

Roosevelt's true feelings regarding armaments were expressed when he wrote in 1904 that even England could not be depended on for support in times of trouble and that her friendship would cool immediately if we quit increasing the size of our Navy. When he came into office Roosevelt was eager to secure a large fleet to make sure that no great European power tried to seize territory in the Americas. He believed that Dutch and Danish possessions on this side of the Atlantic were "constant temptations to Germany."

To Roosevelt, a powerful and ready Navy was the best insurance the United States could have against war; if we were strong enough no one would dare attack us. He was interested principally in the Navy because the United States had no strong land neighbors; an enemy would have to strike by sea. Besides, it was "a comparatively easy task to turn a man of the proper character, physique, and intel-

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ligence into a good soldier" but a battleship and its crew could not be improvised.

With the exception of a few months in 1905 and 1906 Roosevelt agitated constantly and enthusiastically for a larger Navy. There was a time in 1905 when he felt the Navy had reached the proper size, being second only to Britain and France. He swiftly changed his mind, however, when a crisis with Japan coincided with the beginning of a new naval race in *Dreadnought* type battleships. He insisted that the United States keep up with or ahead of other nations in the size and quality of ships and guns.

When he came into office in 1901 the United States Navy was listed in Brassey's *Naval Annual* as sixth in the world after Britain, France, Russia, Italy, and Germany. When he left Washington in 1909 it was listed as second after Great Britain. He had persuaded Congress to increase the fleet by 16 battleships in seven years.

Perception and Supervision

Roosevelt was by no means contented merely with increasing the number of ships in the Navy. In a series of letters and memoranda, which in their breadth and perception resemble those of Winston Churchill during the Second World War, he supervised every aspect of national defense. Emphasizing the need of naval bases in American overseas possessions, he was at least partly responsible for the beginning of Pearl Harbor as an important installation. Realizing the value of an isthmian canal to a nation with two coastlines, he was instrumental in our acquisition of the Canal Zone in Panama and insisted that the locks in the canal be wide enough to handle the largest battleships then contemplated.

He constantly watched the designs of American ships, suggesting in 1904 (a year before Britain laid down the *Dreadnought*) that we build a battleship with

an all-big-gun battery. He initiated suggestions for improving armor belts and coal-ing arrangements and in 1908 urged the adoption of 14-inch guns (again, long before Britain turned to armament of that power).

Within three months after taking office, Roosevelt turned his attention to naval gunnery, finding it quite unsatisfactory and keeping the Navy under continuous fire by letter and personal inspection until the situation improved. His own suggestions included prizes for marksmanship and advanced pay for gunpointers. Perhaps the most important aspect of Roosevelt's activity in improving the Navy was his support of new ideas and use of his authority to see that they were given fair trials at a time when older officers often stoutly resisted change.

He found no detail too small for his attention if it meant some slight improvement in the Navy on which he depended for American power and prestige. He discovered and put an end to suppliers' furnishing poor lubricating oil and bad coal, gave his blessing to the submarine service by securing better ratings and extra pay for its crews, caused an investigation of antitorpedo defense, sought to improve the lot and thus the morale of engineroom crews, made sure of adequate ammunition supplies on hand, and insisted that turbine engines be given careful consideration. Roosevelt demanded that the Navy remain at sea as much as possible for the training needed to remain constantly prepared for war, and suggested strategy for possible use against Japan. Above all else, he concentrated the formerly scattered American ships into a strong Atlantic Fleet and an adequate Pacific squadron.

Tradition Flouted

Contrary to a long tradition, he insisted that the Navy was not designed for coast defense or for commerce raiding, but to seek out the enemy fleet and

destroy it. His last advice to William Howard Taft, before the latter became President in 1909, was to keep the fleet a unit, words repeated to young Franklin D. Roosevelt, another Assistant Secretary of the Navy, in 1913. Beyond all specific reforms, as one authority has written, Roosevelt "breathed fresh life into the old organization and cleared away much of the lethargy which was enveloping the naval bureaucracy." The Roosevelt magic dazzled, and often improved, everything it touched.

Despite his service with the Rough Riders Roosevelt was not as deeply interested in the Army as in the Navy, considering the latter more important to national greatness. However, no department of the Government was allowed to escape his scrutiny and the Army received its share of suggestions and criticism.

He urged more practical and comfortable uniforms than those of dark blue with standup collars, called for cavalry practice charges against rows of dummies so that horses and riders would not halt or shy off at the last moment, urged that tests be made of various new rifles, and submitted to the Secretary of War a long list of topics to be investigated for the improvement of artillery. He helped the passage of a law providing a retirement plan for enlisted men, called for an investigation of low reenlistment rates, insisted on physical fitness of officers, and suggested a way to improve the quality of horses procured for the cavalry. Also, Roosevelt asked for a reexamination of the West Point curriculum (which he felt laid too much stress on mathematics and too little on real soldiery).

The most important aspect of Roosevelt's impact on the Army was his insistence that training be as akin to actual conditions of war as possible. He wanted even the National Guard to be trained to live in the open, to know less parade ground drill, and more of survival in bat-

tle. He continually pressed for a reduction in the number of Army posts and the concentration of troops in larger numbers for training by brigades and divisions. He especially urged maneuvers including a long march to an embarkation point, a sea voyage (he suggested from Galveston to Florida), debarkation, and more hard marches. The one point on which Roosevelt was almost a fanatic was that his armed forces be ready at all times to give a good account of themselves against the toughest enemy likely to be met by the United States.

The drums of war summoned Roosevelt to action yet one more time. After leaving the Presidency he had occupied himself in hunting and exploring, writing, and a fruitless political campaign. The summer of 1914 found him at loose ends, a man apparently without a future and yet apparently as vigorous as ever. War in Europe and the relationship of the United States to that war provided him with one last cause.

Wilson versus Roosevelt

Strangely enough, his first public utterances about the war were mild, stating that only the "clearest and most urgent national duty" would justify deviation from our rule of neutrality. However, by November 1914 he burst into bitter attacks on the Wilson administration. He had disliked Wilson intensely since the latter had proposed paying Colombia an indemnity for our part in the Panama Revolution of 1903 and, of course, was deeply suspicious of Germany and a firm friend of Britain.

Perhaps his support of Wilson for two or three months was only a suspension of judgment until Wilson's policy toward the warring powers became manifest. By June 1915 he wrote that had the United States done as he wished it would already be fighting on the side of the Allies.

Roosevelt had many influential British

friends, and sent letter after letter with advice on how to improve relations between the Allies and the United States, suggesting that the French Navy intercept American ships carrying contraband, that the Allies publish documents on German atrocities, and treat American newspapermen kindly. To his own countrymen he cried that "to be neutral between right and wrong is to serve wrong," condemning "a neutrality as complete as that of Pontius Pilate."

Since Roosevelt insisted that force was a necessity in international affairs, he also insisted that the United States prepare her armed forces to back up the Nation's foreign policy—which he intended should be that of fighting beside Britain and France. He preached against division of the fleet, grasped every chance to warn the public of the disasters which had befallen nations refusing to arm for defense, and denounced Wilson's steps toward preparedness as inadequate. Roosevelt reached new heights of bitterness in the election campaign of 1916, and when Wilson won, he condemned as "yellow" those who had voted for the President, saying that they merely wanted to keep "their own worthless hides safe."

Less than six months later the United States was at war and Roosevelt approached the man and Government which he had attacked so savagely, asking permission to lead American troops into battle. In May 1914, when Europe was still quiet, Roosevelt had half hoped for a "serious war" in which he could raise and lead a division of cavalry. A "mere" war with Mexico would not do. The next year he actually made plans for such a division to be raised if the United States were drawn into the war.

Stiff Refusals

When the crisis with Germany became acute in February 1917, Roosevelt contacted Secretary of War Baker who po-

litely, but stiffly, refused repeated requests for a position of command. War had changed since 1898 when Roosevelt bragged about his regiment's heavy losses. Baker commented that the United States could not afford to repeat on a larger scale the San Juan Hill affair, "with the commander rushing his men into a situation from which only luck extricated them."

Turned down by his own country, Roosevelt made inquiries about serving under the French or British flag, but to no avail. The Europeans may have felt that had the United States sent a Roosevelt-led volunteer division to Europe it was not taking the war seriously. At any rate, the best he could do during the rest of the war was to support his Government's efforts to raise an army by conscription and to help his sons and son-in-law get into the armed forces in positions of as much danger as possible.

In the 20 months of life remaining to him, Roosevelt gave an amazing portrayal of the almost overardent supporter of the war effort who at the same time flayed the Wilson government, and especially the President himself, for every shortcoming, real or imagined. He also lectured the American people on the need to ensure our future strength by adopting a system of universal military training on the Swiss model, which he claimed would vastly improve all our young men physically and mentally, making them more useful to themselves and to their country.

Roosevelt demanded that Germany be forced to accept unconditional surrender and was defeated in his object. He raged at Wilson for permitting any other terms—sought revenge by helping to defeat Democratic candidates for Congress in November 1918 and proposed a plan for a league of nations which he insisted was more realistic than Wilson's. His idea was to form an alliance of the victorious Allied and associated powers, each nation

to remain fully armed and ready to preserve—by force—peace in an assigned part of the world. The United States was to supervise Mexico, Central America, and northern South America. He laid his chief emphasis on national preparedness and the limitation of the league to powers satisfied with the peace settlement and thus presumably reliable. There is no reason to believe that the men in control of the great powers in the 1930's would have behaved differently under Roosevelt's plan than they did as members of Wilson's league.

Roosevelt declared many times that machinery for settling international disputes was good only so far as the adherents to it actually intended to live up to their obligations. He probably believed that the interest of the victors of 1918 in preserving the new settlement would outweigh timidity, pacifism, and other factors which might prevent action. Like Wilson, he could not be expected to foresee the state of mind of western Europe and the United States in 15 or 20 years.

Conclusions

What can be said, finally, of Roosevelt the warrior-statesman? He was a man who understood the times he lived in, when nations won respect and survived only if able to defend themselves. He was a man who insisted that his own country be strong enough to win the glorious future which he believed awaited it, and who was able by the force of his vigorous personality to gain public and congressional support for his measures of preparedness.

Yet, for all his occasional wild words, he was a man who when in power was the soul of caution in committing his country to action in foreign affairs. In brief, he epitomized the school of thought which suggests the wisdom of careful calculation of the national interest, the maintenance of the physical strength to defend it, and the restraint to know the difference between upholding genuine interests and the mere adventurism which leads to disaster. Such a man's career holds lessons for our own day.

Our Army today is prepared to meet the requirements of war from limited war to an all-out nuclear conflict. We are particularly adapted to defeat lesser enemy operations which would pose a grave and direct threat, not only to the security of the United States but to the very existence of civilization as we know it today. The Army's ability to fight effectively with either atomic or non-atomic weapons is the key factor of our national power to apply military pressure with precise discrimination in order to deter aggression on the spot, anywhere in the world.

The deterrent military strength to which the United States Army contributes so mightily forms a splendid shield for the Nation in these critical times. We must realize, however, that military deterrence alone will not produce the substance of peace which we seek.

We must be strong, and stay strong in the military armaments for the prevention of war and the maintenance of our national security. But even more importantly, we must develop the kind of strength which reaches beyond mere military might.

Just as effective military deterrence requires the whole spectrum of military power, so does over-all deterrence require the whole spectrum of our national resources—moral, spiritual, and material.

It is imperative that we develop every aspect of our national life. Our Armed Forces will be just as strong as we are as a Nation—not one whit more.

Secretary of the Army Wilber M. Brucker

THEORY OF GUERRILLA WARFARE

Edward F. Downey, Jr.

Much has been written about guerrilla warfare, but most of it has been concerned with the details of tactics. The purpose of this article is to point out the need for a comprehensive theory of guerrilla warfare and to suggest some major lines for its future development. The author has, therefore, emphasized the strategic rather than the tactical aspects of guerrilla warfare.—Editor.

SINCE the blitzkrieg of the Germans in World War II, the major trend in warfare has been toward greater mobility. The lightning war of the Nazis would seem pedestrian in comparison with the present destructive potential of the strategic air forces we have today. Tomorrow, intercontinental ballistic missiles (ICBM's) will relegate the jet bomber to the horse and buggy days. The increasing destructive capacity of nuclear weapons has added wings to the trend toward greater mobility in war.

In the Second World War the German armored forces punched through the defense systems of country after country. France was felled in a shockingly short time because the French failed to evaluate the new mobility of the blitzkrieg properly, and with their theory of positional warfare were unable to defend themselves. Before France could devise new tactics, the war was over and she was defeated. Other countries suffered similar defeats.

Experience with airborne tactics in

World War II in such places as Crete and Burma indicates that modern ground armies equipped with transport planes and helicopters can mount a three-dimensional blitzkrieg today. Even the limited experiences of such tactics under unfavorable conditions in Korea substantiate this point.

Defense in Depth

Every country that has fallen before the onslaught of a modern blitzkrieg has collapsed because that country failed to develop an effective defense in depth. Once the Germans slashed through the perimeter defense of the Polish and the French, the forces of those countries became so disorganized that effective inner defense was impossible. For the Germans the balance of the campaign was a mopping-up operation. Aerial blitzkriegs were even more devastating because they started out by eliminating the necessity for breaking through; they were mopping-up operations from the start.

It was well into the war before an effective concept of defense in depth developed. Then commanders were forced to organize their districts into a pattern of what might be described as modern military feudalism: districts organized around strong points prepared for all-around defense. Even this concept was sketchy and poorly applied. Later, in Korea, our damaging reverses at the hands of the Chinese Communist blitzkrieg proved that, all too often, American soldiers had forgotten, or had never been taught, the importance of defense in depth.

Our guerrilla warfare capacity should be developed now by a thorough study of methods, accumulation of available material on the subject, and incorporating guerrilla warfare training into current training programs

Because we recovered from our setbacks in Korea by massive military effort, we did not have time to see a guerrilla movement develop among the South Koreans. During World War II, however, every Allied country that was invaded developed some type of resistance movement. These activities for the most part were spontaneous and slow developing. That they did grow universally is a basis for the need of a theory to govern similar activities. At present, there is no adequate unified theory of guerrilla warfare.

Total War

Naturally, most Americans will think this discussion boringly academic since, as everyone knows, we have a Strategic Air Force equipped with nuclear weapons capable of wiping out an enemy in a few short hours. Such a force exists, and has the capability of doing just that. The danger is that Americans generally believe that we will use this strategy. Whether we do or not depends upon more than military factors. As Henry A. Kissinger states in his book, *Nuclear Weapons and Foreign Policy*:

In such a situation, it is futile to speak of 'purely' military considerations. From

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a military point of view, nothing is more efficient for cratering airfields, destroying port facilities or eliminating transportation centers than a megaton weapon. But the crucial problem of strategy is the relationship between power and the willingness to use it, between the physical and the psychological components of national policy. Faced with the knowledge of the consequences of a thermonuclear war, policymakers will be reluctant to engage in a strategy, the penalty for which may well be social disintegration.

Thus at least one author disagrees with current thinking in regard to carrying out a modern war: Too few Americans have considered warfare as anything other than a struggle for annihilation, while history is largely the record of conflicts falling short of this ultimate objective. General Karl von Clausewitz in his book *On War* considers the relationship of politics to warfare when he writes:

We see, therefore, in the first place that in all circumstances we have to think of war not as an independent thing, but as a political instrument. And only by taking this point of view can we avoid falling into contradiction with the whole of military history. This alone opens the great book to intelligent appreciation. In the second place, this same point of view shows us how wars must differ according to the nature of their motives and of the circumstances out of which they arise.

From this discussion it appears that there are two courses open to the United States in relation to offensive mobility in war. The first is to launch an unrestricted nuclear offensive in case of attack. The second is to carry out a war on more conventional grounds, achieving mobility on the structure of World War II tactics. Both of these policies would be militarily possible. Because of American disdain for the theoretical, our military policy leans toward the more easily grasped "total

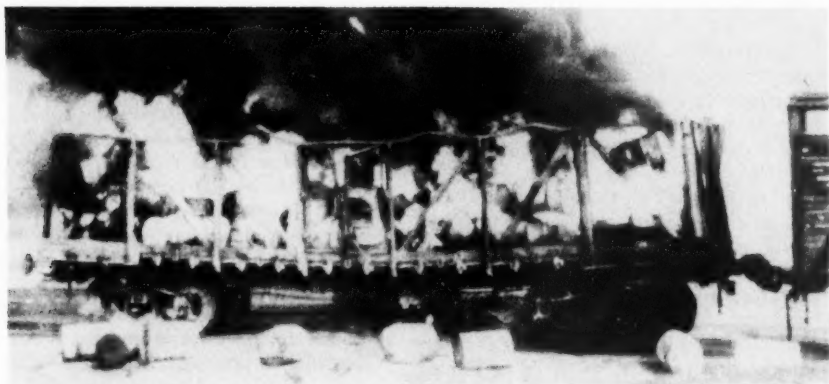
war" concept of the first alternative; yet our experience in the postwar era has forced us to practice the second concept, "For Korea caught us completely unprepared not only militarily but above all in doctrine."¹

All or Nothing

At the present time Americans are indulging in the luxury of an all or nothing theory of war. The prevailing thinking is that we either win or we do not, but, whatever the case, we will know

for such a possibility. The United States, at the present moment, is like a winning fighter. Not having lost any fights, we have not prepared ourselves for that possibility. Since the only recourse history offers a defeated nation, besides total submission, is a resistance movement, we must develop an adequate theory of guerrilla warfare so that we will have a prepared course of action.

Clausewitz emphasizes the political character of war. So do the statesmen of



A German fuel supply train is wrecked by Soviet partisans during World War II

shortly after the war breaks out. This is too shallow an attitude to take toward national survival. No matter how destructive the war, conventional or nuclear, chances are something will be left after it is over. Supposing we were to lose a nuclear war; we would be like a fighter down, but not out. If a fighter or a nation has to think while it is on the canvas with a reeling head, the decisions are not likely to be the best.

A trained fighter and a trained nation will have prepared and drilled on a plan

our day. The ideological conflict between the democratic nations of the West and the communistic nations of the East is the factor which, if anything, will touch off a cataclysmic nuclear war. If this should happen, and if we should lose such a war, the ideological differences would still exist. Providing the differences in belief are sufficient to cause such a bloody conflict, they are worth defending even if we are defeated temporally. Should the differences not be worth the destruction, we should accept the Communist beliefs and avoid the struggle. This is a course which would not be taken by Americans. Therefore, we must develop a plan for

¹ Henry A. Kissinger, *Nuclear Weapons and Foreign Policy*, Harper & Bros., New York, 1957, p. 43.

our defense in depth in case we are defeated. Because of the increasing mobility of warfare, the only practical solution is the development of a guerrilla capacity. And development of a guerrilla capacity is dependent on the existence of a sound theory of guerrilla warfare.

Cultural Aspects

So far the ideas related to the need for a guerrilla theory have been concerned almost exclusively with military considerations. Another need, which has grown in the last few years, exists in the political sphere. In fact, it has social and cultural significance. The rise of communism has resulted in a political ideology differing greatly from our beliefs. Now we are fighting an enemy bent on our annihilation. He is concerned not with a military annihilation, but with the attempt to displace all the political, social, and cultural concepts of our society that vary with dictatorial materialistic socialism. This political aim of our enemy should warrant our greatest concern, but receives almost no attention. Should we be defeated in battle, and should we lack a comprehensive theory of guerrilla warfare, we would be helpless in the face of an organized attempt to change the political and cultural complexion of our people.

That Communists feel this way is evident in their writings. In *The State and Revolution*, Lenin signals the changes that must come:

But the dictatorship of the proletariat—i. e., the organization of the vanguard of the oppressed as the ruling class for the purpose of crushing the oppressors—cannot produce merely an expansion of democracy. . . . We must crush them in order to free humanity from wage-slavery; their resistance must be broken by force; it is clear that where there is suppression there is also violence, there is no liberty, no democracy.

We read so much today that is written

by the dead leaders of communism that some people question whether this thinking is still prevalent. To show that it is, and to sample perhaps the most authoritative criticism of communism available today, the following statements have been extracted from *The New Class* by Milovan Djilas, former Vice President of Yugoslavia:

From theory and practice, Communists know that they are in conflict with all other classes and ideologies, and behave accordingly. They are fighting against not only actual but also potential opposition. In the Baltic countries, thousands of people were liquidated overnight on the basis of documents indicating previously held ideological and political views. The massacre of several thousand Polish officers in the Katyn Forest was of similar character. In the case of Communism, long after the revolution is over, terrorist and oppressive methods continue to be used.

On intellectual freedom Djilas writes, "The Communist system, as a rule, stifles and represses any intellectual activity with which it does not agree; that is everything that is profound and original.

Communist Aims

Perhaps the most effective indication of what the United States must expect from communism is apparent in the following evaluation by Djilas:

Absolute brutality, or use of any means, is in accord with the grandiosity, even the unreality of Communist aims.

By revolutionary means, contemporary Communism has succeeded in demolishing one form of society and setting up another. At first it was guided by the most beautiful, primordial human ideas of equality and brotherhood; only later did it conceal behind these ideas the establishment of its domination by whatever means.

Thus, by justifying the means because of the end, the end itself becomes increas-

ingly more distant and unrealistic, while the frightful reality of the means becomes increasingly obvious and intolerable.

When we read this from the pen of a man only recently Vice President of a Communist country, and even now in a Communist prison, we can judge the truth of what so many others have written. We can also gauge the fearful implications for our country if we should be defeated

and social reconstruction particularly effective and dangerous today is the high degree of organization and interdependence of our society. Once an enemy can break down the delicate interrelationships of our social order effectively, as he tries to do in a blitzkrieg attack, he can conquer us. This done he can set about reconstructing our social world. He gains control of the communication media, he uses secret police



The white coverall gown and head covering worn by Soviet partisan blends with terrain while lacking a plan for opposing an organized attempt to remodel our society.

Thus we have developed, in addition to mobility of modern warfare, a second trend of modern times: the attempt to remake a conquered country along the political, cultural, and social lines of the conqueror. Some will object that this has been a long-standing historical trend, but few will deny that never before has the attempt been made in such an organized and determined manner and with such a variety of techniques. And fewer still will deny that we have planned no defense for such an eventuality.

What makes this trend toward political

to hunt down subversives, he controls the economy, he eliminates the dangerous and potentially dangerous leaders, he sets up controls for schools, and he revises textbooks. Every repressive technique is used.

Planned Resistance

Naturally, any society which has lost a war to protect its social values should have devised some means of continuing its culture in the face of organized social change. The answer is a resistance movement: guerrilla warfare. Obviously, a concept of guerrilla warfare envisioning the guerrilla organization as the transmitter of culture as well as a military force is a

concept of partisan warfare far advanced over the cowboy and Indian theory held by most people. As far as can be determined, no extensive investigation has been made into this political sphere of guerrilla warfare.

There are, nevertheless, historical precedents to indicate this trend. Every country which developed a guerrilla movement established schools to train partisans. These schools were basically technical, but the same type of activity could have been used for political and cultural purposes. Perhaps the activities of Communist cells offer the best examples of political projects that could be assigned guerrillas.

Any country that is brought to its knees in an international conflict must expect a long, hard, up-hill struggle to recovery. It must plan for a protracted resistance, and unlike most guerrilla resistance of World War II, it must plan for a resistance without outside help. Most of the current ideas about guerrilla warfare presuppose outside assistance.

Communist China offers the best example of the political and cultural aspect of guerrilla warfare. In his *Red Star Over China*, Edgar Snow writes:

Under institutional education the Reds already claimed to have established about 200 primary schools, and they had one normal school for primary teachers, one agricultural school, a textile school, a tradeunion school of five grades, and a Party school, with some 400 students. Courses in all of these lasted only about six months.

Other cultural activities are indicated by Snow in that Chinese Communists maintained a central printing plant at Kian with 800 workers, producing books, magazines, and the national newspaper, the *Red China Daily News*. In addition, he states that they set up factories, however primitive, to produce their own goods, and established armories to repair and manufacture weapons and explosives.

Therefore, after considering the military and political conditions that point to the need for a unified theory of guerrilla warfare, we may conclude that greater mobility in war and the conqueror's attempt to impose his political and social structure on the conquered nation demand that we develop a defense in depth. Experience indicates that the only effective defense in depth established during World War II was the resistance movement. The slow development of this movement and its variety indicate that a sound theory is needed. Before this theory can be developed, however, we must uncover certain trends that will point the way for further research.

Identifiable Trends

Since there is no all-encompassing theory of irregular warfare, there is no sound definition for the words *guerrilla warfare*. A common definition, "An irregular mode of carrying on war, by the constant attacks of independent bands" is insufficient. Confusion develops between partisan bands operating in their own homeland and commando type raiders. Are they both guerrillas? In most military literature they have been grouped together. Yet there is considerable difference between these forces despite the similarity of their tactics. A comprehensive theory will separate these forces and concern itself only with those operating within their own countries.

Commando type raiders usually are highly organized, superbly trained troops. They come from an area beyond that in which they operate. They usually are supplied by forces outside the battle area, or they carry their own supplies. When they conduct operations they do so mostly in areas where the population is hostile or untrustworthy. Normally, they have a limited objective which they destroy by a rapid concentration of superior force. As soon as their objective is eliminated, they attempt to return to the regularly organized

forces of their country. They are not irregulars; they are *elite* regulars operating independently of the main body of troops. Therefore, they will no longer be considered within the scope of this article.

If the guerrillas are people operating within their homeland, then we are beginning to limit the definition. If they also operate normally within their own locale, as is stated by Brigadier C. Aubrey Dixon and Otto Heilbrunn in their study *Communist Guerrilla Warfare*, then we may

War. Considering the possibility of fighting the Turks with Arabian guerrillas, he wrote in his *Seven Pillars of Wisdom*:

My wits, hostile to the abstract, took refuge in Arabia again. Translated into Arabic, the algebraic factor would first take practical account of the area we wished to deliver, and I began idly to calculate how many square miles: sixty: eighty: one hundred: perhaps one hundred and forty thousand square miles. And how would the Turks defend all that? No doubt



Soviet partisans wait in ambush along a trail in the woods

assume guerrilla warfare to be a form of defense. Thus it would seem that defense of the homeland is the strategic objective of guerrilla warfare. The tactics of the guerrillas, however, are offensive. They operate like commandos, trying always to be stronger than their enemy where the fighting takes place. Their major objective, tactically, is to achieve superiority of force at the decisive point.

Lawrence

The first great theorist on guerrilla warfare was T. E. Lawrence who thought about guerrilla combat while serving in the Arabian Campaign of the First World

War. *by a trench line across the bottom, if we came like an army with banners; but suppose we were (as we might be) an influence, an idea, a thing intangible, invulnerable, without front or back, drifting about like a gas? Armies were like plants, immobile, firm-rooted, nourished through long stems to the head. We might be a vapor, blowing where we listed. Our kingdoms lay in each man's mind; and as we wanted nothing material to live on, so we might offer nothing material to the killing. It seemed a regular soldier might be helpless without a target, owning only what he sat on, and subjugating only what, by order, he could poke his rifle at.*

Lawrence figured that in order to defend Arabia from a guerrilla attack in depth the Turks would need a post every four square miles. Each post would have to have 20 men. Thus the Turks would need 600,000 men to defend Arabia properly. Naturally, this would be an impossibly large number.

Yet the trend indicated by Lawrence developed during the Second World War as witnessed in the following report by B. H. Liddell Hart in *The Red Army*.

The situation in the immediate vicinity of the railway lines showed that the German occupation authorities held only the larger administrative centers and those railways and roads which served as the main lines for the front. Whole districts in the rear were burnt out and uninhabited, the roads were not being maintained, no bridge was left intact, while the railways of secondary importance carried no traffic. On the other hand, the wild forests and out-of-the-way marshy regions were filled with life. They harboured the population of the centres occupied by the Germans, and the actual lords of these forests: the partisans.

Guerrilla Operations

Only guerrillas can operate in a country that is conquered by the enemy. Unlike a national army, they are not dependent upon supply bases and fixed communications. Normally, they do not try to defend specific land areas. They do not remain concentrated. They are dispersed throughout the countryside and concentrate only to accomplish a military objective. Once this mission is effected, they disperse into the anonymity of the countryside. Enemy troops are sent to catch them, but exhaust themselves chasing the "vapor" that Lawrence described: "Many Turks on our front had no chance all the war to fire on us, and we were never on the defensive except by accident and in error."

Because guerrillas choose the time and

place of attack, they always hold the initiative. Melting into the countryside after an attack, they demoralize the enemy who chases a shadow army.

By attempting to be superior at the decisive point, guerrillas always attack under favorable circumstances. As they become more active, the enemy is forced to consolidate his forces to prevent their piecemeal destruction. The more the conqueror must concentrate his forces, the more he must surrender the countryside to the guerrillas. Take any small town, for example. How many troops could a conqueror spare to occupy it? If any, the number would be small, and they would be a perfect target for guerrillas. In order to prevent the destruction of these occupying squads and platoons, the enemy would be forced into the larger nearby centers of population. From these focal points he could send out patrols, but for the most part would have surrendered the countryside to the guerrillas.

Gaining control of the countryside, therefore, is one of the major objectives of the guerrillas; yet this is a trend that has not been adequately appreciated in the current theory. That this trend exists, however, is history. In *Secret Forces*, Ferdinand Otto Miksche writes:

Very primitive and poorly equipped at the start, as time went on the resistance organization improved to such an extent that towards the end of the war it had almost attained the standards of a regular army. Whereas in the spring of 1941 the Germans required only twenty divisions to destroy the Yugoslav and Greek armies within a few days, the subsequent occupation and policing of the countries called for the employment of fifteen German and thirty Italian, Bulgarian, and Croatian divisions. Territories the size of Belgium were governed by Yugoslav partisans.

When the guerrillas control large territories they can train their men more

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effectively, since they can do it openly. Moreover, they can carry out their political mission more efficiently. They can establish local governments, tax inhabitants, conscript troops, and engage openly in the social and cultural activities previously pointed out.

Regular Organization

Another overlooked trend in current theory is the tendency of guerrillas to develop an army organized along regular lines. As soon as the guerrillas can control territory, they must begin to think along offensive as well as defensive lines. Wars cannot be won by defense alone. When the resistance forces gain freedom of operation, they must begin the transition toward a new national army so that eventually they can assume the offensive and drive the enemy from their country. This trend has been largely overlooked in current theory. Yet it is logical they should create forces capable of tackling larger concentrations of enemy troops.

Again the historical example exists. General Barr in a report to the Department of the Army in which he discusses a 40 percent increase in the strength of the Chinese Communist Forces over the Nationalists in one year says, "The expansion was accompanied by continued reorganization along more uniform and orthodox lines."² Further substantiation of this development may be found in this statement from Rigg's *Red China's Fighting Hordes*:

The Red Army of China fought a guerrilla war against the Japanese; a division war against the Nationalists; and now they are fighting an army war against the UN forces in Korea.

To any country interested in national survival, this overlooked development of guerrilla warfare merits the closest attention. Guerrilla warfare gives a de-

feated country a chance to engage its enemy along conventional lines and to rise again as a national power. The offensive itself could not be guerrilla warfare, but the resistance movement would make possible the transition toward a higher level of military organization.

Chinese Communists

Perhaps the most searching inquiry into guerrilla strategy and tactics has been made by the Chinese Communists. The best source of information on all aspects of Chinese Communist guerrilla strategy and tactics, including the political approach, is Snow's *Red Star Over China*. Some of the principles developed by Mao Tse-tung and related by one of his officers are listed by Snow as follows:

1. Fight no losing battles. Refuse engagements that cannot be won.
2. Use surprise. Avoid static battles where the advantage is with the enemy.
3. Since superior maneuvering ability is vital to guerrillas, enter no battle without a carefully detailed attack plan, and, particularly, a carefully planned retreat.
4. Local defense forces must be won over politically, or defeated militarily.
5. Always outnumber your enemy in a regular engagement. Experienced guerrillas may hit larger units that are marching, resting, or poorly guarded.
6. In case enemy strength has been miscalculated, or some other mishap intervenes, guerrillas should be able to disengage the enemy as fast as they attack them. Reliable subordinates must be available to replace leaders.
7. Pretend to attack in the east while attacking in the west.
8. Avoid fighting the main force of the enemy; concentrate on the weakest or most vital link.
9. Prevent the enemy from locating the guerrillas' main forces. Partisans should avoid concentrating when the enemy is advancing, and should shift positions as often as two or three times a day just

² *United States Relations With China: With Special Reference to the Period 1944-1949*, Department of State Publication 3573, U. S. Government Printing Office, Washington, D. C., 1949, p. 322.

before an attack. Secrecy in movement is vital. The plans for dispersal after an attack should be as well worked out as the plans for assembling for the attack.

10. Besides superior mobility and mass at the decisive point, the guerrillas must have superior intelligence. Multiple lines of gathering intelligence must be established and all must be protected.

11. Support of the inhabitants is absolutely necessary. The inhabitants are the base of the army.

The information just cited is of tactical as well as strategic value. Actually, the guerrillas cannot be separated from their tactics, since, to a large measure, tactics are so interwoven into their strategy.

One of the most significant aspects of guerrilla warfare pointed out here is that the people form their base. A guerrilla movement will be short-lived if the people do not actively, or passively, support its objectives. Inasmuch as the guerrillas are not dependent on physical supply depots, they live off the country and off the people. Unless their activities have widespread popular support, they are doomed to defeat.

This facet of guerrilla warfare is well-appreciated in the current theory but has been evaluated improperly by military forces. It is interesting to note this statement made by Goebbels in his diary:

April 25, 1942: The inhabitants of the Ukraine were at first more than inclined to regard the Fuehrer as the savior of Europe and to welcome the German Wehrmacht most cordially. This attitude has changed completely in the course of months. We have hit the Russians, and especially the Ukrainians, too hard on the head with our manner of dealing with them. A clout on the head is not always a convincing argument—and that goes too, for the Ukrainians and Russians.

Even in this limited aspect of guerrilla warfare there is not complete agreement

or understanding. Again, we have returned to the need for further research. We must attempt to discover trends as yet uncovered in this method of warfare. We must verify or denounce popular prejudice that has too long stood for fact.

American Military Policy

While we are improving the theory and tactics of irregular warfare, we cannot remain idle. The United States must develop a guerrilla potential as quickly as possible, based upon the best available information and experience. We have seen how unplanned partisan movements have provided other nations with defense in depth. At the same time, we have seen that defense in depth came too late for most of these countries. Therefore, since lack of action can be fatal, we must develop our guerrilla capacity NOW.

Naturally, the first step should be an exhaustive study of guerrilla warfare. Our objectives and the means of accomplishing them must be outlined clearly in our own minds. We must create a sound theory for a resistance movement, and determine the most suitable tactics and organization to implement it. To accomplish these objectives we must glean every lesson from existing guerrilla literature. More than this, we must search out guerrilla leaders who have not published their experiences. Full development of any theory waits upon accumulation of information.

An adequate theory of guerrilla warfare exists, but it is hidden in the pages of history. Like the theory of gravity before Newton, it has not yet been fully seen, interpreted, and accepted. Even if guerrilla movements in an emergency do develop eventually, they waste valuable men and time. Given a sound theory from the start, many preparations can be eliminated before hostilities. By establishing a chain of command, conflicts between leaders will be minimized in time of adversity. By training peacetime guerrillas,

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we would prepare wartime potential. By concentrating stores of arms and supplies, we would use effectively equipment now becoming obsolete for regulars, but still valuable for partisans. In the light of our present knowledge of guerrilla warfare, these things should be done now.

Considering the fact that untrained peoples throughout the world have built guerrilla armies, we must concede that workable tactics can be grasped easily and quickly. There is no reason why we cannot incorporate guerrilla indoctrination into all phases of our current military training. The skills taught in our military schools would be needed by guerrillas. We would not have to increase the training time, we would merely give perspective to the training by showing how these skills could be used by guerrillas. In this way we would prepare our Armed Forces with their high personnel turnover for additional duty as citizen-soldiers. Professional military men would be prepared for the day when their organized military units might be destroyed or disbanded.

One of the greatest sources for guerrilla units lies in the vast pool of Reserve personnel not affiliated with Active Re-

serve organizations. These men with their military experience offer the best *available* manpower pool for a guerrilla army. For this reason, drastic cutbacks in the number of these reservists are unwise. There is no reason why our Government could not establish a basic guerrilla training program for these men. With their varied military and civilian backgrounds, the entire activity would be enriched. Perhaps, above all the Reserve programs now existing, this would provide the greatest return as insurance against disaster.

Conclusion

Additional study will indicate other practical applications of guerrilla theory, but for the moment we may safely conclude that the United States would be strengthened materially if we develop a guerrilla capacity. Our defense in depth would be assured, our social institutions would be safeguarded, and our ability to rebound from disaster would be enhanced. With the development and application of an adequate theory of guerrilla warfare, we would place the ultimate responsibility for our Nation's defense where it belongs—in the hands of our citizens.

With the increasing Soviet capability, a rising level of Communist provocation rather than a reduction of activity appears probable. In the face of this threat, what types of military forces are required?

We need deployed forces in being in critical areas of the world to provide the Soviets with convincing evidence of our determination, to bolster the morale of our allies, and fight in place, or be redeployed rapidly if necessary. . . .

We need to extend the effects of these deployed forces by providing assistance in material and training to indigenous forces. . . .

We need a mobilization base sufficient to maintain a general war posture even while participating in limited wars. This places particular emphasis on the requirement for Reserve component forces in a high state of training and properly equipped.

General Bruce C. Clarke

GENTLEMAN JOHNNY'S MISTAKES

Lieutenant Colonel Robert M. Walker, *Artillery*
Faculty, U. S. Army Command and General Staff College

A man without one scar to show on his skin, that is smooth and sleek with ease and good homekeeping habits, will undertake to define the office and duties of a General.—Plutarch

EVEN Americans, who benefited most by General Burgoyne's surrender at Saratoga in 1777, picture that ebullient gentleman as somewhat of a martyr on the cross of political expediency. Burgoyne failed, history has recorded, because the British Secretary of State for the Colonies, George Sackville or as he was later known, Lord Germain, did not direct Sir William Howe to move his army northward from New York to meet Burgoyne's expedition coming down from Canada. Thus the two never combined forces, and Horatio Gates defeated "Gentleman Johnny" Burgoyne in the battle at Saratoga, generally considered to have marked the turning point of the American Revolution.

Sackville not only failed to send Howe to the north, instead he actually permitted him to move in the opposite direction thus separating the two armies even farther. It probably is true that if Howe's army had met him at Albany as he had every right to expect, Burgoyne's magnificent plan to split the rebelling colonies, as expressed in his "Thoughts for Conducting the War From the Side of Canada," would have succeeded.

But blame Sackville if we will, and pity Burgoyne if we must, the fact remains that Gentleman Johnny made a few mis-

takes of his own. Burgoyne's plan contemplated an invasion from the north along the line of Lake Champlain, Fort Ticonderoga, Lake George, to Albany, and there to combine his force with that of General Howe coming up from the south. Simple and direct, it envisaged the creation of a barrier along the valley of the Hudson, cutting the long narrow band of the rebellion in two. He offered as a poor second choice an alternate route south from Ticonderoga through Skenesboro and Wood Creek to the Hudson. Other salient points that Burgoyne considered were the possibility of moving east to the Connecticut Valley after taking Ticonderoga; a diversionary to the west; and a second alternative of moving the entire Canadian striking force by sea to the Albany area.

Burgoyne's Orders

The orders he received accepted only the idea of the diversionary attack, unfortunately leaving the decision as to the route south from Ticonderoga up to Burgoyne—this led to one of the major errors of this mistake-ridden campaign.

Other than this, his orders demonstrated a remarkable lack of flexibility. They were: "to pass Lake Champlain and to proceed with all expedition to Albany and put himself under the command of Sir Wil-

Failure of his superiors to give him the support he had every right to expect plus a less-than-perfect plan combined with less-than-perfect implementation contributed to General Burgoyne's defeat at Saratoga

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liam Howe." He was to "act as exigencies may require, but never lose view of the junction with Sir William Howe as his principal objective."

In the same letter with which he transmitted the above orders to Burgoyne through General Carleton, Governor of Canada, the Secretary of State also said that he would write to General Howe at New York directing him to move north to Albany. This latter letter, of course, was never written.

General John Burgoyne was an experienced soldier. He had participated in three of the expeditions of the Seven Years' War and later commanded one of the favorite military units of King George III, which was named after him—Burgoyne's Light Horse. He distinguished himself in the Peninsular War. A keen and enthusiastic soldier, a member of Parliament, and in high favor in the Royal Court, Gentleman Johnny was on his way up. He was a man of great physical courage, and above all a man of consummate and driving ambition.

To him, command of the force which would implement his plan to strike at the heart of the Revolution was the greatest of opportunities. He was, or at least should have been, keenly aware of the difficulties

he would encounter in the virgin forests of the Hudson-Mohawk Valley area—he had served most of 1776 as second in command to General Carleton in Canada. He had led the British expeditions against Forts Chambly and St. John, both of which had been evacuated by the Americans in the face of his threatened attack.

From Canada he returned to England in November 1776, where his invasion plan was accepted by the King.

Initial Success

Burgoyne's Canadian army was made up of about 4,000 British soldiers, 3,000 German mercenaries, approximately 500 Indians, and a massive contingent of artillery. This powerful body, proceeding down Lake Champlain by boat in June 1777, found it easy to drive the meager defense force of the young American army out of Fort Ticonderoga.

A quick pursuit of the fleeing Americans brought them to bay at Hubbardton, where a turning movement and a bayonet charge broke the hastily arranged revolutionary position. The hard-pressed Americans again fled the scene, this time with their commander's unique order ringing in their ears, "Scatter, and meet me in Manchester."

In three days Burgoyne had made terrific advances—slashing through all opposition and dealing the incipient revolution a crushing blow. The Americans greeted the news of the fall of Ticonderoga with astonishment and dismay, but in England there was exultation and talk of giving Burgoyne the red ribbon of the Order of the Bath.

Gentleman Johnny, his army depleted only by a few casualties and the two regiments he had left for the occupation of Ticonderoga, apparently felt he could rest on his laurels. He abruptly dropped his hard driving pursuit and settled down in Skenesboro. It took him three weeks against virtually no opposition to move the 23 miles from Skenesboro to Fort

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Edward on the Hudson and once he had reached that great river, more than a week went by before his advanced corps moved forward again.

General Gates is later reported to have commented that if Burgoyne had pushed



forward a few regiments of infantry supported by light guns, taking advantage of the panic caused by the fall of Ticonderoga, he would have covered the 70 miles to Albany in less time than it actually took him to reach the Hudson.

Fateful Decisions

General Burgoyne made two fatefully erroneous decisions in his wait at Skenesboro. He decided to push forward with his entire force including the major part of

his artillery, which contributed considerably to his delay, and he took the direct route south down Wood Creek to Fort Edward.

He did not proceed through Lake George, which he had correctly called the "most expeditious and commodious route to Albany," because that course would have necessitated a retreat to Ticonderoga and a consequent lowering of troop morale. He also feared a delay if he had to lay siege to Fort George (as if he did not delay enough with the Wood Creek route), and moving by way of Wood Creek freed the boats to carry artillery and supplies.

A major influence in determining which route to take also seems to have been the advice of Philip Skene, a retired British officer living in Skenesboro. At least one historian has suggested that Skene based his recommendation on his desire for the British forces to clear the obstacles the Americans were busily creating on the road south from the settlement.

The Americans made enthusiastic and effective use of Burgoyne's delay. A thousand axmen dropped the great trees of the virgin forest across the only usable road, creating obstacles of almost insurmountable difficulty. A virtual scorched earth policy was put into effect, with cattle herds driven off and standing crops destroyed.

Burgoyne, failing to realize that time was working against rather than for him, lived high at Skene's house. Had he not had the easiest of all victories at Fort Ticonderoga, and again at Hubbardton? There was no hurry. His main body of troops left Skenesboro on 24 July, arriving at Fort Edward after five days of the most arduous travel.

Contemptuous of the American fighting ability and imbued with the arrogance of the "regular" soldier for the "improvised" revolutionaries, Burgoyne felt there were "no men of military science" among them. This same purblind presumption had been

expressed just before the publicicans Walpole, Burgoyne, and the ridiculous outmaneuvered the Americans. A case of men's heads was scaled off the canvas of the map. The British was another out of the line. His army was em- go- hu- pr- cie- an- co- of-

expressed earlier in the campaign, when just before the attack on Ticonderoga he published a "Proclamation" to the Americans. This document, which prompted Walpole to call its author "the vaporing Burgoyne" and "Pomposo," among other things threatened to set the Indians upon the rebels. It was widely circulated and ridiculed among the Americans, and turned out to have a reverse effect which Gentleman Johnny hardly had anticipated.

Another action of Burgoyne's which occasioned considerable adverse public comment came just before they reached the Hudson, when an Indian brought in the scalp of Jane McCrae, the fiancée of one of the provincial officers of Burgoyne's camp. A full pardon for the perpetrator of this outrage was necessary, as Gentleman Johnny saw it, to prevent the defection of the entire Indian contingent. He was critically attacked in both England and America for his decision. As it turned out, he might as well have saved himself the trouble. His Indians, always unreliable, dropped him like a hot coal with his first defeat.

Thus to his underestimation of the enemy's ability and willingness to fight, Burgoyne added a lack of understanding of human nature. Certainly his bumptious proclamation, and the Jane McCrae incident, did little to help the British cause and were of considerable assistance in coalescing American opinion on the side of the revolutionaries.

Lack of Transport

By the time he had reached Fort Edward, Burgoyne was beginning to feel the pinch of lack of transportation. Of the 1,400 horses he had requested in Canada, he had received only about one-third. The 500 two-wheeled carts that had been constructed hastily for his use were made of green wood, heavy but fragile. These deficiencies perhaps were not directly Burgoyne's fault, but it should be noted that he had arrived in Canada on 6 May, and

did not make any request for transport until 7 June, only three weeks before he moved out to attack.

He had assured that the carts used by officers for their personal baggage would be held to a minimum, issuing orders at Montreal and again at Skenesboro on the subject. But he hardly set the example—he had loaded 30 of the carts with items he felt to be required for his own personal comfort.

At the end of July only about 180 of the two-wheeled carts and 20 to 30 ox carts were all that could be mustered for the supply of his army.

The immense artillery train added considerably to the supply problem. The amount of artillery with which he had started from Canada was almost six field pieces per thousand troops, a somewhat higher proportion than had been normal, even during the trench and position warfare toward the end of the Seven Years' War. Not only did the weapons themselves slow his advance, but more important they took horses and transportation away from the vitally necessary task of quickening the movement of his soldiers.

In testifying at the official investigation held later, Captain Bloomfield of the British Artillery stated that approximately 400 of the meager supply of horses were used in transporting the artillery south from Ticonderoga, and if only the heavy pack of artillery had been left behind, 237 horses would have been made available for other uses.

Artillery Requirement Defended

Captain Bloomfield did not consider the amount of artillery with the army to be inordinate. General Carleton, Governor of Canada, explained during the same investigation that the artillery had been planned initially by another general and himself and, moreover, if he had been in command, after reducing Ticonderoga he also would have taken artillery with him in the pursuit. Thus there appears to be concert on

the requirements for artillery to batter down the elaborate field works the Americans were expected to construct.

Another aspect of the artillery picture was presented in the testimony of the Earl of Balcarres, commander of the British Light Infantry. He agreed that, "The rebels were indefatigable in securing themselves in entrenchments, and in general adding an abatis to their entrenchments."

"The artillery," he said, "would have been of great use in dislodging the enemy."

But the Americans, it appeared, were



not inclined to make themselves targets for Burgoyne's treasured artillery. As the Light Infantry Commander put it, "The reason the Americans did not defend their entrenchments was that they always marched out of them and attacked us!"

The bugaboo of siege warfare, for which Burgoyne made such elaborate plans and needless sacrifice, never materialized—but he kept artillery with him to the end.

Therefore, it was not unnatural that Gentleman Johnny felt it necessary to secure more horses. Also, he began to recognize, or better yet, admit, the desirability of having mounts for the German Dragoons.

These soldiers had been fighting dismounted, and had found it heavy going. They wore thigh-length leather boots that

weighed more than 12 pounds per pair. Their leather gauntlets reached high up their arms, their thick leather breeches were durable but burdensome, and they wore enormous cocked hats topped by a long plume. For arms they carried short heavy carbines and long heavy broadswords, the latter encased in even heavier scabbards.

It is surprising that General Burgoyne even considered taking such overladen troops into the difficult battlefields of the forest. He was well-acquainted with the need for lightening their burden, and knew the advantage of maneuver gained by the "shirt sleeve" soldier. He apparently forgot the report he had once made on the Austrian uniform, which seemed to him to "unite as much as possible of lightness, warmth, and ease." His soldiers undoubtedly were warm, but for lightness and ease both the British and German uniforms and equipment left something to be desired. His British soldiers carried a battleload of about 60 pounds—the Germans considerably more.

Bennington Expedition

Burgoyne had received news that the Connecticut Valley was teeming with horses available, as he thought, for the taking. Philip Skene confirmed this with a report that there was a Revolutionary depot for horses and supplies at Bennington. This was enough for the supply-poor Burgoyne. A 700-man detachment, consisting mainly of German Dragoons, was dispatched to the area under instructions that contained the optimistic reminder, "The number of horses requisite, besides those necessary for mounting the Dragoons, ought to be 1,300. If you can bring more for the use of the army, so much the better."

The Bennington expedition, its troops quite adequately accoutered for action on the open plains of European battlefields, but hopelessly out of place in the heavy American forest, was based on a welter

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of erroneous information and misconception. The British commanders, aided perhaps by Skene's predilection for telling people only what they wanted to hear, firmly believed the country to be generally Tory, when, in fact, it was becoming increasingly revolutionary. In addition, the country of the Connecticut River did not abound in horses, as Burgoyne had been so willing to believe. Or, to put it more accurately, *there were no horses there for British taking.*

Lieutenant Colonel Baum, who led the expedition, quickly added a few of his own errors to the original mistake of dispatching the force in the first place, and for the British the fat was in the fire. Warren's American troops, originally estimated to be about 400 and expected to fall back before Baum's regular units, were thought to be the only sizable rebel force in the area. This group was off to the north, having "scattered and met at Manchester," as directed. But Stark and his 1,500 "Green Mountain Boys" were close at hand, ready for the kill. Encountering this force, Baum quickly sent for help.

Burgoyne sent help, of course. He sent Lieutenant Colonel Breyman and 550 more German troops who were armed almost as heavily as Baum's Dragoons. Burgoyne slowed down the reinforcement party even more by supplying them with two 6-pounders to mire down in the deep mud of the forest trails. In addition, the German units conducted their march as though on a parade ground, halting as many as 10 times an hour to dress and redress ranks. The cumulative effect was reflected in their rate of march—one-half mile an hour.

Breyman's relief force, as can be imagined, arrived at the scene far too late to do Baum any good and was itself badly mauled by the victory-hungry Americans.

Exactly why the slow-marching Germans were sent on this mission where speed was so essential is not really clear. It has been explained that the Germans

were on the left of the British formation, thus nearest the location of Baum's desperate situation. Even if this were true, it still leaves the question unanswered.

Burgoyne himself, in a letter to the Secretary of State, presented a most unusual explanation when he said, "Nor would I have thought it justifiable to expose the best troops to loss upon a collateral action."

This "collateral" action lighted the lamp of victory for the Americans. It was a consummate and eagerly accepted proof that irregular troops *could* prevail over disciplined regular forces.

Hudson River Crossed

Burgoyne still was vastly contemptuous of the American armies and still stubbornly sticking to the letter of his instructions to drive to Albany, in spite of the fact that he knew by now that Howe would not be there to meet him. Involved in a logistical system that could not possibly fulfill its function and with his strength painfully low, he deliberately cut himself off from his base. He crossed the Hudson River.

There was, of course, some justification for this action. It was the type decision that history would record as *bold* if successful, and *rash* if it failed.

He now had a river at his back making it virtually impossible to retreat. He had little information concerning the ground over which he must fight and even less about the forces he would encounter. He did, however, avoid the difficult marshy and roadless terrain that was supposed to lay on the east bank of the river. Additionally, by crossing over he placed himself on the same side of the river as Albany, the only large city in the area that might provide him with shelter and food for his army.

He could not remain where he was. Not only did the condition of his supplies and troops mitigate against this, but despite the lethargy he had displayed earlier, it

was not in the nature of Gentleman Johnny Burgoyne to wait for battle to come to him. He was the type who would go out and meet it.

He was a bold cavalryman and a confirmed and lucky gambler. Above this, he was ambitious and needed a striking success to avoid being tarred with the same brush as the other British commanders in America. So he crossed the river to the west, to surrender a few weeks later to the growing might of the revolutionaries in a rousing failure that proved to be the pivotal battle of the Revolution and which drew France, and later Spain, into conflict with England.

Analysis

Admittedly, the lack of coordination between Burgoyne's and Howe's armies could not be laid at any other door than that of Sackville, my Lord Germain. Certainly, all honor goes to the American leaders—Stark, Warren, Gates, Schuyler, Lincoln, and Arnold. The fact remains, however, that Burgoyne had victory within his grasp when he arrived at Skenesboro, but the tide of revolution was on the flooding rise by the time he made his delayed appearance on the Hudson.

He dragged his heavy and unwieldy entourage of artillery through almost impassable terrain long after it must have been obvious that he would never have any real need for it. It only helped to slow him so that the Americans could have the time to construct the defensive positions the artillery was intended to demolish. Worst of all, he compounded his mistakes by attempting to implement a strategic plan that certainly was no more than second best.

In his original plan, Burgoyne had suggested that the alternative was available of embarking the army by sea from Quebec for accomplishment of the juncture at Albany, assuming that the chief purpose of the invasion was to effect such a meet-

ing. The idea of cutting the American Colonies in two was eminently sound, but this was capable of fruition by the sea route just as effectively and with far less danger of failure. The creation of the river valley as an occupied military barrier would have been of far greater value to the British cause than the defeat of whatever forces the Americans might interpose to the joining movement.

It must be recognized that although the basic plan was Burgoyne's, the decision to disregard the advantages of the sea move was not. King George canceled all consideration of it with the terse comment, "I greatly dislike the idea."

It also must be recognized that Burgoyne's ambition surely would have driven him to take the course that would keep his command independent, and this meant the land route. The sea move to New York would have placed him under General William Howe (with consequent reduced opportunity for personal glory) at a much earlier time.

Conclusion

In retrospect, it is easy to say that the plan for invasion from the north was bad from the start, but it was not *that* bad. It could have succeeded, even without the coordination that would have made it so much easier.

Gentleman Johnny Burgoyne stands as a monument not only to the failure of his superiors to give him the support he had every right to expect, but also to the fact that a less-than-perfect plan, combined with less-than-perfect implementation, is doubly likely to fail.

Perhaps the most accurate summation of the entire episode is expressed in the words of General Burgoyne himself: "I believe, where war is concerned, few men in command would stand acquitted, if any after-knowledge of facts and circumstances were brought into argument against the decision of the moment and apparent exigencies of the decision."

KEEPING PACE WITH THE FUTURE--

A Course for Senior Officers

Colonel Hughes L. Ash, *Infantry*

Faculty, U. S. Army Command and General Staff College

There will never again be a war involving the major powers without the use or threat of use of atomic weapons. Until they are employed, the threat will hang over every engagement and will impose a requirement for constant readiness for an atomic surprise and will force the opponents to deploy and fight the same as if atomics were being utilized.

—Department of the Army Pamphlet 20-1, A Guide to Army Philosophy

This is the fourteenth in a series of articles expanding various aspects of "USA Command and General Staff College Keeps Pace With the Future," written by Major General Lionel C. McGarr, USA, Commandant of the College, and published in the April 1957 issue of the MILITARY REVIEW.—Editor.

UNTIL a practical working knowledge of nuclear weapons, their delivery systems, and supporting organizations become a part of every officer's background, the merits of the new organizations, procedures, and doctrine can never be fully realized—nor even properly tested. The difficulty of achieving such a working understanding of nuclear weapons employment—and, in fact, of the new organizations and doctrine themselves—is compounded by the rapid pace of development of today's Army.

Those who insist that "there's nothing really new!", or "the old system always

worked fine for me!", or "it's all semantics!" are doing a disservice to the Army and to themselves. Past experience may be one of several guide posts—but should never become a hitching post. The Army must help its members grow; its members must help the Army grow.

Need for a Senior Officer Course

In the problem of growing with one's vocation the military profession is unique. Military leaders have little opportunity actually to practice that on which the pay-off of their profession depends—COMBAT. Growth depends on the quality of training literature and on simulated combat such as map exercises, command post exercises, and field exercises. But in this era of fundamental development, new training literature is voluminous, continually changing, and, by the time it is published, does not always contain the very latest thinking. In addition, exercises presuppose experience at the top echelons which must guide, correct, and train the lower echelons. A case in point

The Senior Officer Nuclear Weapons Employment Course at the USA Command and General Staff College provides training for senior officers in tactics, logistics, techniques, procedures, and technical considerations and operations involved in the employment of nuclear weapons

was Exercise *Sagebrush*. Official after action reports of this exercise indicated that many senior officers had not had the opportunity to prepare themselves adequately in nuclear weapons employment. This evaluation was reinforced by the final report on Exercise *King Cole* which concluded, "There appears to be a deficiency in the training of commanders and senior staff officers in atomic weapons employment" and which recommended US CONARC ensure "That all senior commanders and staff officers are trained adequately to enable them to make valid decisions in the use of atomic weapons."

For the Army to unhitch from the past and grow with the future all officers must recognize that experience in World War II and Korea is not sufficient background for today's wars—much less tomorrow's—and all officers must become practiced in the requirements and problems of nuclear war. Training in employment of nuclear weapons is now provided junior officers by the Army Educational System. But what about the many major unit commanders and their senior staff officers who have completed their formal military schooling?

Excellent familiarization courses for senior officers have, of course, been in existence for several years. These courses,

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however, focus primarily on "hardware" construction and design and on detailed casualty producing effects of nuclear weapons rather than on battlefield employment. Furthermore, these familiarization courses are generally designed for and beamed at officers of all Services and, therefore, it is difficult for them to provide adequate treatment of the tactical concepts, techniques, and procedures which are primarily appropriate to Army forces (or to any single Service) and essential to training of Army personnel.

This, then, was the situation when, in the summer of 1956, the Commanding General United States Continental Army Command decided to establish a Senior Officer Atomic Employment Course (subsequently retitled Senior Officer Nuclear Weapons Employment Course—SONWEC) at Fort Leavenworth. Since the first presentation in March 1957 there have been 25 classes attended by 1,453 officers of which 191 were general officers—3 lieutenant generals, 68 major generals, and 12C brigadier generals.

Establishment of SONWEC

The basic directive ordered the U. S. Army Command and General Staff College to establish a new course which would provide "sufficient training for senior officers to solve adequately and intelligently the problems inherent in the employment of nuclear weapons in support of Army operations." This mission was neither intended nor interpreted as limiting the course solely to Army weapons systems. Obviously, many Navy and Air Force weapons systems are used to support Army operations. Thus in line with increased emphasis on joint operations and the "tri-Service team" approach throughout all curricula at Fort Leavenworth, the course developed includes instruction in the weapons systems of all three Services with relatively greater emphasis on tactical as opposed to strategic employment of nuclear weapons.



SONWEC is opened by Major General Lionel C. McGarr, Commandant, USA CGSC, in the Faculty Briefing Room of the new College academic building, J. Franklin Bell Hall



The Commandant's reception for SONWEC is held during the first week of the course

Based on reports of field and command post exercises, the initial US CONARC guidance cited the following general areas as requiring improvement and, consequently, emphasis in the new course for senior officers:

- Doctrine for the employment of nuclear weapons.
- Capabilities and limitations of nuclear weapons and their delivery systems.

other components of the Army weapons system.

- Logistical problems inherent in the employment of nuclear weapons.
- Area damage control.

It should be noted that the accent in the USA CGSC course is on the use of technical knowledge of nuclear weapons systems in tactical and administrative support (logistics, personnel, and civil affairs)



SONWEC includes a demonstration of the latest nuclear, chemical, and biological "hardware." Above, Major Theodore R. MacKechnie (instructor) discusses a nuclear warhead with Major General William C. Bullock, Commanding General, Fort Chaffee, Arkansas; Lieutenant General Charles D. Palmer, Commanding General, 6th Army; and Major General Philip D. Ginder, Deputy Commanding General, 1st Army.

- Nuclear weapons effects and the significance thereof on the battlefield.
- Command and staff planning and procedures for employment of nuclear weapons.
- Proper utilization of nuclear weapons employment officers and guidance required in the performance of their duties.
- Integration of nuclear weapons with

operations rather than on detailed knowledge of nuclear weapons per se. With these requirements in mind, US CONARC formally stated the following purpose of SONWEC:

To train major unit commanders and their senior staff officers in the tactical, logistical, and other administrative doctrine, techniques, and procedures ap-

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plicable in employing nuclear weapons to support Army operations, including training in the technical considerations and operations involved.

Elaborating on this purpose, US CONARC stressed that the course must "provide a thorough appreciation of technical considerations and operations."

At first it was visualized by higher headquarters that three weeks would be required to achieve the purpose of this course. However, in view of the high caliber of students expected to attend, the Army-wide problem of holding costs to a minimum, and the time that senior commanders could be expected to be absent from their commands, a two-week course was eventually decided upon. The feasibility of limiting SONWEC to one week was also carefully studied—both then and subsequently in light of actual experience with the instruction and the students. The conclusion is still that a one-week SONWEC would not accomplish the directed mission and could be no more than a lecture-type general orientation. In fact, recognizing that a major portion of the costs involved are travel expenses, the College believes reducing SONWEC to one week would be false economy since the funds saved would not compensate for the decreased effectiveness. In this regard the comment of the commander of an active division, recently a SONWEC student, is particularly apropos: "This course did what previous orientations had not; namely, gave an 'honest' appreciation of the tactical application."

Generally, SONWEC has been a difficult course to design, write, and conduct because of the spread in grade, branch, and experience within each class which normally includes senior representatives from the several components of the Army team—Arms and Services as well as Active, Reserve, and National Guard units. The record indicates, however, that a fair balance has been achieved: during the 1957-58

and 1958-59 academic years only 16 students out of 610 who completed the course-end questionnaire indicated that portions of the course were too elementary while only 20 considered the course too advanced.

In this connection, the Army must not lose sight of the fact that a normal tendency for a course of this type is to become downgraded over a period of time insofar as student rank is concerned. Priority should continue to be given to generals and colonels as specified in the US CONARC-established prerequisites. Further, while lieutenant colonels are authorized to attend, they should be *select* lieutenant colonels whose assignment is comparable to the level and scope of the course. Although expressly prepared for senior officers, SONWEC maximizes student participation and, therefore, classroom discussion sometimes tends to gravitate to the experience-level and interest-level of the class. Thus retaining the *senior* nature of the course is a joint obligation of both the College and the field. The College must prepare and conduct the course for senior officers; the field must select students who are senior officers.

Course Content

At the very beginning the College recognized as a major challenge the responsibility to develop and conduct a course which would both accomplish the mission concerning "training" in "technical considerations and operations" and, at the same time, be stimulating to the prospective students in view of their seniority, background, and experience. With this in mind author/instructors have been selected from the most experienced and capable in the College. The command and senior staff echelons of the College have exercised continuous supervision to ensure that the course focuses on its basic purpose, incorporates the latest concepts and doctrine, and is geared to the requirements of major unit commanders and their sen-

ior staff officers. Emphasis is placed throughout on application of the *technical* knowledge concerning nuclear weapons employment *appropriate to senior command and staff positions*, with the students discussing and resolving problems concerning nuclear weapons employment in realistic tactical and administrative

hours can be categorized as indicated in Figure 1.

Technical Block of Instruction

The primarily technical Subjects are, naturally, presented in the first few days of the course. Here the Department of Nuclear Weapons (DNW) gives the student a basic understanding of nuclear



Voluntary evening seminars are scheduled during the second week of SONWEC between select faculty members and senior students in related field assignments. From left to right are Colonel James E. Goodwin, 2d Infantry Division, Fort Benning, Georgia; Colonel Lee Wallace, Director, Department of the Infantry Division, USA CGSC; Major General Robert L. Howze, Jr., Deputy Commanding General, 6th Army; Major General Thomas J. Sands, Deputy Commandant, Armed Forces Staff College, Norfolk, Virginia; Colonel Richard W. Mabey, U. S. Army Infantry Center, Fort Benning, Georgia; and Lieutenant Colonel Kenneth B. Potter, Office of the Assistant Chief of Staff, Intelligence, Department of the Army.

support settings which approximate the varying environments and conditions that will exist in the field.

Because of the emphasis on application and integrated instruction in the course design, it is difficult to obtain an accurate picture of the comprehensive coverage in SONWEC without attending the course. Excluding voluntary seminars, which are discussed later, SONWEC contains 74 hours of formal instruction. These

weapons systems and their effects. Generally speaking, in this part of the course, the student focuses on the technical problems involved in employing nuclear weapons in contrast to later units of instruction when he makes decisions involving technical, tactical, and logistical aspects of the employment of nuclear weapons and their integration with conventional firepower and the maneuver of ground elements.

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This portion of the course is relatively detailed and covers "hardware," effects, and employment techniques (Figure 2), emphasizing simplified and practical techniques applicable to the army in the field. It describes nuclear weapons (including a display of training weapons and models), their effects (including response of tactical target elements to both initial and residual effects and the military significance thereof), and their delivery systems (including capabilities, limitations, field management, and technical aspects of ad-

which he, as a commander or senior staff officer, might not normally do himself. These are actions—such as target analysis—that the nuclear weapons employment officer usually accomplishes. This is essential during the initial instruction to obtain a thorough appreciation of the capabilities and limitations of the tools and techniques used and the problems involved—to give the senior officer some of the background he would have gained as a "junior" officer had he come up through the "nuclear ranks."

BREAKOUT OF SONWEC HOURS

<i>Instructional Area</i>	<i>Hours</i>
Student Orientation	1
Technical Aspects of Nuclear Weapons Employment	26
Command and Staff Aspects of Nuclear Weapons Employment	5
Application of Preceding Instruction in Resolving Tactical and Administrative Support Problems	42
Total	74

Figure 1.

ministrative support). This instruction presents the techniques and procedures of target analysis involving weapon selection, damage estimation, prediction of fallout, probability considerations, troop safety criteria, and selection of height of burst and desired ground zero. Also incorporated into this block of instruction is consideration, both fundamental and applied, of the interrelationship of chemical and biological weapons and of nuclear weapons as well as an excellent display of CB "hardware." The purpose of this portion of the course is to enable the commander and senior staff officer to guide, to evaluate, and to act on the analyses and recommendations of his nuclear weapons employment staff specialist and to give the student adequate technical background to resolve tactical and logistical problems in subsequent Subjects.

In this part of the course *only*, the senior officer is asked to solve some problems

Thus the technical block of instruction is in essence the backbone of the course. With this foundation, the student proceeds to consideration of the impact of nuclear weapons on command and staff procedures and on tactical and administrative support operations.

Command and Staff Aspects

Presented by the Department of Staff and Educational Subjects (DSE), the instruction in command and staff aspects of the tactical employment of nuclear weapons is designed on the assumption that all SONWEC students have extensive background in normal command and staff responsibilities and procedures. Therefore, the DSE course of study is concerned primarily with the changed or new command and staff responsibilities, considerations, problems, procedures, and actions occasioned by the advent of tactical nuclear weapons, including the role of operations

centers in expediting headquarter's reaction. In addition to pure staff responsibilities and actions, the student is introduced to the importance of, as well as the current and projected capabilities and limitations of, target acquisition, combat surveillance, radiological monitoring and survey, damage assessment, and utilization of the information obtained therefrom. This department also conducts a lecture on the nuclear weapons systems of foreign powers, emphasizing the USSR, and a seminar—a

Army aviation including aerial reconnaissance and security units. Typical problems with which the student is concerned include:

- Allocation, control, and distribution of nuclear weapons.
- Capabilities and limitations of delivery means.
- Integration of nuclear and nonnuclear fires.
- Execution of multiple nuclear weapon attacks.

TECHNICAL SUBJECTS

<i>Instructional Area</i>	<i>Hours</i>
Nuclear Weapons and Delivery Systems	7 *
Nuclear Weapons Effects	6
Employment Techniques	13
Total	26

* Includes 2 hours on future trends in development of nuclear weapons and use of nuclear energy for other military purposes.

Figure 2.

think piece!—on the psychological aspects of the nuclear battlefield.

Now having an up-to-date foundation on which to build, the student is ready for the "main effort" of SONWEC which is the applicatory portion of the course. This consists of the 42 hours shown in Figure 3.

Operations of Tactical Units

The primary vehicle for applicatory instruction is the new infantry division, supplemented by exercises using the latest armored and airborne divisions and higher echelon organizations. Here the student is cast in the role of a commander or principal staff officer and required to provide command guidance, to develop concepts of operations, and to render decisions on employment of nuclear fires.

The requirements focus on the employment of nuclear weapons in tactical settings emphasizing mobile-type operations, the maneuver of specifically tailored forces to exploit nuclear fires, and the use of

- Deliberate employment of fallout.
- Use of atomic demolition munitions.
- Evaluation of troop safety criteria and decisions involving emergency risk to own forces.
- Actions required by inadvertent fallout on own forces.
- Traverse of fallout areas.
- Utilization of nuclear weapons for on-call fires and against targets of opportunity.
- Decisions required when nuclear weapons achieve more or less damage than expected.
- Employment of nuclear weapons for air defense and for interdiction (considering Army delivery means as well as Air Force and Navy systems).

In addition to the aforementioned Subject areas, there is a specific unit of instruction on the tactical employment and administrative support of Army missile commands.

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Administrative Support Operations

Since the employment of nuclear weapons involves many administrative support considerations, particular attention is given in SONWEC to its importance in nuclear warfare. The College considers this one of the most crucial areas today, requiring more rapid doctrinal development and increased appreciation by all officers of the Arms and Services. A portion of the instructional material on logistics and the other interrelated aspects (personnel and civil affairs) of administrative support is integrated into the Subjects on

ons; and storage, maintenance, movement, and handling), these specific Subjects include treatment of vulnerability analyses, risk-yield determination, damage assessment in rear areas, the modern Army supply system, automatic data processing, and administrative support operations centers.

One of the more challenging and important instructional areas in this block of instruction deals with problems of rear area security and rear area damage control. The solution of these problems is all the more necessary on the nuclear battle-

APPLICATORY INSTRUCTION

<i>Instructional Area</i>	<i>Hours</i>
Division Operations (Tactical and Administrative Support)	24 *
Larger Unit Operations	6
Administrative Support (Logistics, Personnel, and Civil Affairs)	8 **
Special Operations (Unconventional Warfare and Amphibious)	2
Air Defense	2
Total	42

* Includes 3 hours on a future division-level force visualized for the 1965-1975 timeframe.

** This is "pure" administrative support instruction which is in addition to the technical aspects of nuclear logistics included in the technical block and is also in addition to the integrated logistics and other aspects of administrative support covered in a division framework.

Figure 3.

tactical units, just as tactics and administrative support are inseparable on the battlefield. Such integrated coverage includes allocation, movement, storage, security, field management, and replenishment of nuclear weapons.

However, there is also extensive *specific* administrative support instruction presented by the Department of Larger Units and Administrative Support (DLUAS) covering support operations, organizations, and concepts for both the field army and the theater administrative zone in the environment of nuclear warfare. In addition to "nuclear weapons logistics" (such as nuclear weapons support units; stockpile to target sequence of nuclear weap-

field. This particular instruction includes discussion and analysis of pertinent principles and of the command and staff responsibilities for such activities. It portrays the differences in planning, organizing, and conducting rear area security and rear area damage control in the combat zone and in the theater administrative zone. A sample rear area security and rear area damage control SOP is furnished the student.

Future Warfare.

Instruction in SONWEC considers primarily the current timeframe; that is, weapons, organizations, and equipment which are either presently available or can reasonably be expected to be available

within the next three years. However, in recognition of the rapid pace of technological development, the student is introduced to future trends, anticipated weapons systems and equipment, and projected force structures, and is required to consider their impact on today's organization and doctrine. It is essential that every

subject on research and development plans and progress concerning both nuclear weapons and the use of nuclear power in support of Army operations. The applicatory Subjects contain integrated consideration of future warfare. In the last Subject of the course, the Department of Combat Developments (DCD) presents an



Emphasis throughout SONWEC is placed on informal interchange of ideas between faculty and students and among students. Above, from left to right, Colonel Hugh Arnold, Commanding Officer, 159th Engineer Group; Brigadier General Stanley R. Larsen, Assistant Commandant, U. S. Army Infantry School; Lieutenant Colonel Thomas F. Guidera, Office of the Assistant Chief of Staff, Intelligence, Department of the Army; and Lieutenant Colonel John C. Hansen, G3 Plans Branch, 5th Army, consider employment of nuclear weapons in support of an infantry division in a mobile defense.

member of the Army be looking at the future, not staring at the past.

For example, the opening Subject of the course orients the student on today's organizations in the light of the current transition plan and organizational goals as presently visualized. The technical block of instruction includes a two-hour Sub-

applicatory exercise portraying the tactics, organization, and equipment of a future-type division in the 1965-1975 timeframe.

Roles and Environments

In conformance with the Chief of Staff's desire to achieve increased understanding and appreciation throughout the Army of

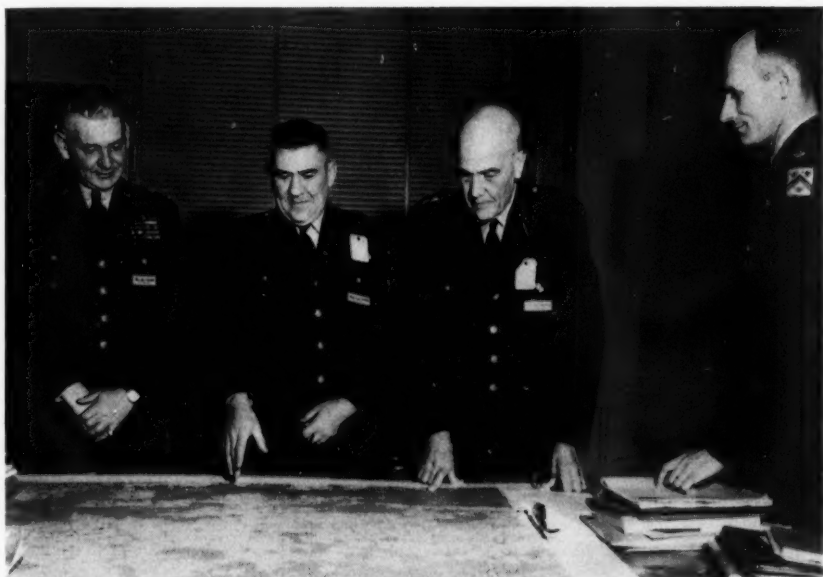
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the National Military Program, the applicatory Subjects portray the varied roles and environments in which the modern Army may have to fight. Classroom instruction, of course, centers on tactics (in contradistinction to strategy) consistent with the level of the College mission and

portray the role of the Army as a member of the tri-Service defense team. Several of the Subjects envisage deployment of a STRAC-type force. Furthermore, realism in the level of usage of nuclear weapons in applicatory exercises is achieved by a careful determination of numbers of



From left to right above, Major General Thomas J. Sands, Deputy Commandant, Armed Forces Staff College; Brigadier General William C. Otten, Commanding General, 370th Transport Terminal Command (C); and Lieutenant General B. M. Bryan, Commanding General, 1st Army, discuss terrain considerations with the instructor, Lieutenant Colonel George F. Sawyer.

the directed purpose of the course. However, different locales for the various Subjects are selected worldwide, and preliminary issue material "sets the stage" for the tactical situations by briefly describing the form of war (general, limited, or situation short of war), scale of use of nuclear weapons, and under what circumstances United States forces become committed. Applicatory Subjects visualize a joint/combined command structure and

weapons by Service, yield, and delivery means.

Voluntary Seminars

In addition to bringing senior officers up to date, SONWEC has proved to be a "two-way" street from which many benefits have accrued to the College. Today's Army is operating in a period of transition to a nuclear-air-missile age Army—a period of soul-searching doctrinal develop-



Discussions continue in the coffee shop of Bell Hall as SONWEC students take a break



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ment. Therefore, taking advantage of the extensive experience and background of most SONWEC students, the College actively seeks their suggestions, ideas, and views in its continuing effort to keep pace with the future. SONWEC students are requested to submit "individual Subject

course to discuss key doctrinal areas, recent field exercises, and methods and requirements of field operations. These meetings have contributed to the USA CGSC goal that the College—and consequently its instruction—maintain a practical, down-to-earth approach which is respon-



During their stay at Fort Leavenworth senior SONWEC students are invited to attend a briefing on current College operations. Above, Brigadier General Frederick R. Zierath, Assistant Commandant, USA CGSC, briefs Lieutenant General Charles D. Palmer, Commanding General, 6th Army; Major General Philip D. Ginder, Deputy Commanding General, 1st Army; and Major General William C. Bullock, Commanding General, Fort Chaffee, Arkansas.

comment sheets" concerning the doctrinal as well as instructional aspects of each unit of instruction and to complete a "course-end questionnaire." Further, discussion groups, made up of select faculty members and senior officer students in pertinent field assignments, are scheduled during evenings of the second week of the

sive to actual and realistic field requirements.

Summary

SONWEC has more than justified its cost both with respect to bringing senior officers up to date and with respect to the contributions made to doctrinal studies through College contact with many of the

Army's key senior field commanders and staff personnel. In this regard, the College is continually striving for—and achieving—simplification of the many complex areas involved in nuclear weapons employment.

In addition, there are bonus effects. As noted by the Department of the Army Education and Training Review Board, the two-week SONWEC provides, within its directed purpose and scope, advanced “refresher” instruction for senior personnel. While SONWEC focuses on and emphasizes nuclear weapons employment, it also orients its students on the latest organizations, on current and interim doctrine for both tactical and administrative support operations, and on major combat development studies. Additionally, the course has provided an excellent vehicle to reach many of our senior officers and achieve increased appreciation of the modern Army roles and environments as they affect the army in the field. Another bonus effect is reflected in the comment by a senior Reserve component officer that SONWEC is the “finest thing I’ve seen

done for National Guard and Reserve officers.”

Based on the generally excellent student reception, on numerous favorable student comments, and on its own analysis the College considers that the Senior Officer Nuclear Weapons Employment Course is accomplishing its mission for those who attend. SONWEC, while only one of the several required steps forward, is a very important step for all senior officers toward meeting the challenging obligations envisaged by Dr. James B. Conant when he said:

As I look over the fence at the task which confronts our military men, I am appalled by the job in purely technical terms. To plan the production and use of weapons not yet developed and to anticipate with any certainty the technical progress of a potential enemy in a rapidly moving area, seems almost humanly impossible. I should like to record my deepest sympathy for those who will be charged with the responsibilities for the defense of the country in the period which lies ahead.

In the technical areas [of missile systems] our continuing objectives are to achieve simplicity, ruggedness, pinpoint accuracy, and reliability. We are seeking higher specific impulse in advancing the development of improved solid and liquid propellants and propulsion systems. We are seeking further weight reduction by such directed investigations as miniaturization, improvements in guidance and control, and countermeasures immunity.

Major General John B. Medaris

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MILITARY NOTES

AROUND THE WORLD

UNITED STATES

Maintenance Tent

A lightweight magnesium frame tent for shelter of personnel performing maintenance on Army trucks and tracked vehicles will replace the older shelter which was designed for use in hot and temperate climates. The new shelter, which may be used under arctic conditions, can be modified in size by the addition or removal of eight-foot interchangeable center sections.

Plans are underway to test the tent at the Arctic Test Board. It is also being tried out as a nose-in aircraft shelter. In one installation, the shelter was expanded to 80 feet in length to shelter personnel performing checkout and maintenance on the *Corporal* surface-to-surface missile.—News item.

'RAT' Canceled

The project for the development and production of the Navy's rocket-assisted torpedo, *RAT* (MR, Jun 1958, p 69), has been canceled. The *RAT* was designed as a torpedo to be rocket propelled to the target area where it would then drop to the water by parachute and seek out a submerged submarine and destroy it. The project was canceled because superior antisubmarine weapons are under development. The *RAT* was still developmental and had not reached the production stage.—News item.

Prepackaged Fuel

The first of a family of prepackaged liquid propellant rocket powerplants, *Guardian I*, is in production. The second of the series, *Guardian II*, is reported to be in the developmental stage. A larger and more powerful version, with a thrust of 50,000 pounds, has been test fired successfully. This type of powerplant is delivered as an integral unit including rocket motor and all components necessary for immediate operation, complete with propellants in a fully loaded condition. It can be stored in this condition for extended periods of time.—News item.

Pathfinder Beacon

A lightweight air-droppable pathfinder signal light is being tested as a marker for airborne troop assembly points. The telescoping mast of the set which is 23 feet long when extended can be reduced to 30 inches to fit into its carrying case. The entire signal light and associated equipment weigh only 20 pounds. The light, which has an infrared range of two miles when viewed from the ground and a visible light range of five miles when viewed from the air, is provided with signal lenses of six different colors. A coding mechanism permits a precoded sequence of four Morse code characters or a continuous light.—News item.

Helicopter Teams

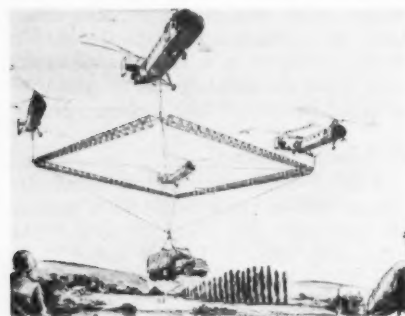
A method of harnessing helicopters in teams of aerial workhorses to provide increased lifting power for short-haul delivery of heavy military vehicles and matériel is under development. Flight testing is under way using two of the



H-21's (Shawnees) in multilift test

VTOL aircraft, and plans include the linking of as many as six helicopters if necessary.

The system utilizes an aluminum alloy spreader frame to which the helicopters



An artist's concept of four *Shawnees* lifting a 13,000-pound $2\frac{1}{2}$ -ton truck

and the cargo are attached by cables. Each spreader frame is 113 feet long and weighs approximately 400 pounds. An electrical release system is provided to enable any of the helicopter pilots to uncouple all members of the team in an emergency.—Commercial source.

Convertiplane Tested

The *XV-3 Convertiplane*, a fixed-wing aircraft with tilting rotors, has completed successfully its first full in-flight conversion from helicopter configuration to normal airplane flight. The *XV-3* is equipped with two 25-foot propeller-rotors that are positioned vertically for helicopter take-off and landings, and tilted forward during flight for operation as a normal aircraft. As a helicopter, the *XV-3* can hover, fly backward, forward, or sideways and operate in and out of confined areas.

As an airplane it has an estimated speed of about 170 miles an hour. The ex-



XV-3 Convertiplane in test flight

perimental aircraft, which carries a pilot and three passengers, is a research prototype for the future development of larger transport *Convertiplanes* with both military and commercial applications.—Commercial source.

Self-Propelled Mortar

The *T257*, a full-tracked self-propelled 81-mm mortar, weighs 18,760 pounds. It has a tanklike body made of lightweight materials and can be air-dropped. The vehicle carries a crew of six, can cross inland waterways, and operates on all types of terrain. Its top speed is 40 miles an hour on land. The 81-mm mortar is mounted toward the rear of the hull and can be removed for ground emplacement if necessary.—News item.

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Big Missile Successful

The *Atlas* intercontinental ballistic missile, now in the flight test stage of development, has been fired successfully over its full range of 6,325 miles, and production of the big missile is under way. The *Atlas*, which attains a speed of Mach



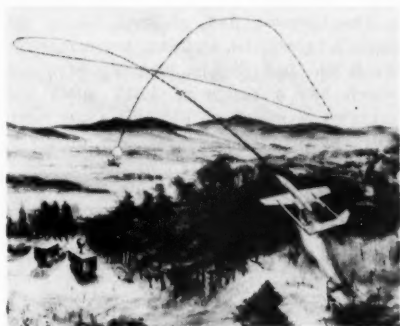
Atlas production line

15 to 20, is propelled by two booster and one sustainer rocket engines with a combined thrust of about 390,000 pounds. It weighs 243,000 pounds at takeoff, and is 10 feet in diameter and 75 feet long.

The first *Atlas* ballistic missile unit to be established is the 576th Strategic Missile Squadron, part of the 1st Missile Division. *Thor* intermediate range missile units also are part of the rapidly expanding 1st Missile Division. Training of *Atlas* missile units is to be conducted at Cooke Air Force Base in California by the 393d Missile Training Squadron which will actually conduct the training of the *Atlas* crews as they are formed.—News item.

Drone Tested

The *SD-3* remote-controlled reconnaissance aircraft drone (MR, Dec 1958, p 65) has been tested successfully in flights which include rocket-assisted launching from a mobile trailer, transition to flight under power of the aircraft's 140-horsepower engine, and recovery of the drone after it has accomplished its mission. All elements of the flights can be controlled by preprogramming the guidance system of the drone, or it can be controlled from a ground monitoring station. Landing is accomplished by an automatic parachute device which floats the aircraft back to earth. Special inflatable rubber mats, contained within the fuselage of the drone, cushion the impact with the ground. The *SD-3* weighs less than one-half ton, is 15 feet long, and has a wingspan of 11 feet.



SD-3 on frontline reconnaissance mission

Interchangeable nose units enable rapid switches from one surveillance technique such as photography, infrared, radar, or television to another type, depending on the information the drone is expected to acquire.—News item.

Submarine Killers

The *S2F Tracker* is a twin-engine anti-submarine search and attack aircraft in service with the United States Navy. This aircraft also is used by the Italian Navy and the Japanese Maritime Self-Defense

Force. The *Tracker* is equipped with a retractable radome under the rear fuselage. It also has sonobuoys in special housings at the rear end of the engine nacelles, rocket armament under the wings, and a retractable magnetic airborne detection (MAD) device in the tail. The MAD system is designed especially to permit the detection of submerged submarines by low-flying aircraft.

Various versions of the *Tracker* include the *S2F-1*, the original production model, also produced in Canada under the designation of *CS2F-1*; the *S2F-2*, a developed version of the earlier model with an enlarged bomb bay to accommodate homing torpedoes; and the *S2F-3*, equipped with more powerful engines and an enlarged fuselage to allow more room for the four-man crew of the aircraft.—News item.

Fast Transport

The *Convair 880*, claimed to be the world's fastest jet airliner, has completed its initial test flights. The big airplane, which has a range of 4,210 miles and achieves a speed of 615 miles an hour, will accommodate 88 first-class or up to

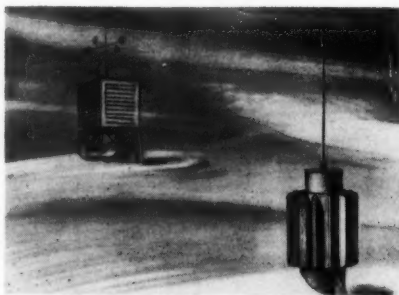


The 880, world's fastest jet airliner

109 tourist class passengers. The aircraft is powered by four *CJ-805-3* turbojet engines of 11,200 pounds thrust each. The *CJ-805-3* engine is the commercial version of the *J79* turbojet used in the world's fastest bomber, the *B-58 Hustler*. The *880* is planned for service on American, Argentinian, Brazilian, Swiss, and Scandinavian airlines.—News item.

Remote Weather Station

A remote weather station, capable of operating automatically and unsupervised for long periods of time, is under development. The station is to be powered by a generator using Strontium 90 for fuel.



Automatic remote weather station

The power source, equipped with radiator fins to facilitate cooling, will be located a short distance from the weather recording instruments. A transmitter will be located on the top of the generator to relay data to a manned station at some more accessible point.—News item.

Missile Aids Aircraft

The *GAM-77 Hound Dog* air-to-surface missile is powered by a *J52* jet engine mounted in a nacelle below and to the rear of the missile fuselage. One missile is suspended beneath each wing of the *B-52G* carrier aircraft.

The engines of the wing-mounted *Hound Dog* can be started while the carrier aircraft is on the ground, providing an additional 15,000 pounds of thrust to assist in the takeoff of the *B-52G*. The *Hound Dog* can be refueled in flight from the bomber so that it will have full tanks when launched. The air-to-surface missile is reported to be 43 feet long with a 14-foot wingspread. It carries a nuclear warhead, and attains a speed of Mach 1.6.—News item.

Missile

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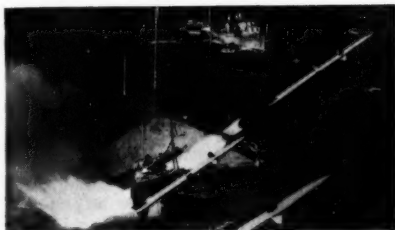
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Missile Capability

Under present shipbuilding programs, the United States Navy eventually will have a total of 51 ships with *Terrier* or *Tartar* surface-to-air guided missile capability. Three ships currently in commission are armed with the *Terrier* missile. These are the guided missile cruisers *Boston* and *Canberra* and the guided missile destroyer *Gyatt*.

The following vessels also are planned to have *Terrier* missile capability: one nuclear-powered and two *Forrestal*-class aircraft carriers; three guided missile cruisers; one nuclear-powered guided missile cruiser; and 20 frigates, one of which will be nuclear powered.

An advance version of the *Terrier*, now superseding the older model, will incorporate improved guidance features and



US Navy Photograph

Terrier in test firing at sea

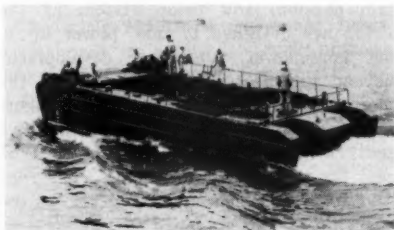
other substantial improvements over the original missile.

The *Terrier* is an all-weather, surface-to-air missile which weighs about 1.5 tons and has a range of 10 miles. The 15-foot-long weapon is powered to a speed of Mach 2.5 by a solid fuel rocket motor and employs beam-riding guidance.

The *Tartar* is described as a junior version of *Terrier* but with about the same range and is designed for use aboard destroyers. Under present plans, three guided missile cruisers and 18 destroyers are to have *Tartar* missile capability.—News item.

Amphibious 'Goliath'

A new giant amphibious vehicle, the *Goliath*, is scheduled for testing at Camp Pendleton, California. Designated *LVTUX 2* (Landing Vehicle Tracked Utility, Experimental, Type II), the vehicle is 46



US Navy Photograph

LVTUX 2 Goliath in water trials

feet long and 14½ feet high. It has two retractable propellers for traveling through water, and four specially designed rubber bushed tracks for land operation. The *Goliath* has two 500-horse-



US Navy Photograph

Goliath climbs a 45-degree slope

power engines which give it a water speed of seven miles an hour—about half its normal speed on land. The 100-ton vehicle can carry a cargo of 63 tons and can climb over offshore barriers, cross beaches, or travel over lakes, rivers, swamps, Tundra, or muskeg. It is capable of transporting any Army or Marine Corps tank now in service.—News item.

GREAT BRITAIN

Utility Helicopter

The *Mk.1* production version of the *P.531* five-seat helicopter will be powered by a *Turmo 600* free turbine engine rated at 425 shaft horsepower. The airframe, transmission, and rotor system of the *P.531* are designed to take power up to 650 horsepower. A further development beyond the *Mk.1* is planned to have the more powerful engine. As a passenger-carrying vehicle, the helicopter has two seats in front, with a rear bench type seat for three more passengers. The rear seat folds up, if necessary, to permit the carrying of two standard service stretchers. In the ambulance role, the front seat can be reversed and occupied by a medical assistant.

The *P.531* uses a number of rotor and transmission components of the *Skeeter*



The *P.531* helicopter is turbine powered helicopter (MR, Feb 1957, p 69) now in service with the British Royal Air Force and the army and navy of the German Federal Republic.—News item.

Twin-Engine Fighter

The *Sea Vixen* is a two-place, day and night all-weather fighter now in production for the Royal Navy. It is powered by two *Avon RA28* turbojet engines of

10,500 pounds thrust each, and can exceed the speed of sound in a dive. The *Sea Vixen* is not fitted with guns but carries twenty-eight 2-inch rockets in retractable racks in the bottom of the fuselage. Underwing pylons are provided for the mounting of four infrared guided *Firestreak* air-to-air weapons or ninety-



Sea Vixen mounts *Firestreak* missiles

six 2-inch air-to-air rockets in four packages. Various other air-to-air and air-to-surface weapons can be carried in many different combinations.

The pilot of the *Sea Vixen* is seated under a canopy offset to the left side of the fuselage, while the observer is in a totally enclosed nacelle to the right side.

Production models of the aircraft are equipped with hydraulically powered folding wings, long-stroke landing gear for carrier operation, and a wing probe for aerial refueling.—News item.

Target 'Canberras'

The *U.Mk.10* version of the *Canberra* is a ground-controlled, pilotless aircraft designed to function as a high-speed target for guided weapons development. The *U.Mk.10*'s are to be used at the Woomera missile range in Australia to supplement the *Jindiviks* and *Meteor U.15*'s and *16*'s already in service there. It is reported to be suitable for operation at altitudes up to 50,000 feet.—News item.

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USSR

Troop Cutback

The Soviet Union has announced that she has cut troop strength by an additional 300,000 men by disbanding military units and establishments in Soviet territory. It also was announced that over 41,000 men had been withdrawn from East Germany and 17,000 from Hungary, and their units disbanded. Plans for this latter move were announced last year (MR, Jun 1958, p 76).

The reduction of 300,000 was said to be in addition to the 1955-56 announced cutback of 1,840,000 men. United States estimates in 1957 indicated that the Soviet Union had about 2.5 million men in the ground forces alone, and found no evidence that the announced 1955-56 cuts actually had been made.—News item.

Biggest Helicopter

The *Mi-6* helicopter, which has been given the NATO code name of *Hook*, is reported to weigh about 66,000 pounds and carry a useful payload of 26,400 pounds. The powerplant of the *Hook* consists of two *Soloviev TB-2BM* gas turbine engines of 4,700 horsepower each mounted above the forward end of the fuselage. The five-blade rotor of the *Mi-6* is said to be about 110 feet in diameter. Latest versions of the big helicopter are equipped with small wings above the main landing gear struts. The aircraft is stated as being able to accommodate up to 120 passengers, with normal seating for 70 to 80 persons.—News item.

'Ukraina' Modified

The *AN-10A*, a developed version of the *AN-10 Ukraina* which is identified by the NATO code name *Cat*, is in production. Noticeable modifications since the first model of this aircraft appeared are small vertical fins at the end of the horizontal stabilizers and a small stabilizing fin under the rear of the fuselage. The

AN-16, a projected development of the *AN-10*, will have a considerably longer fuselage and will accommodate 130 passengers, or 30 more than the *AN-10*.—News item.

Nuclear Surface Vessel

The nuclear-powered icebreaker *Lenin* is designed to cut a 100-foot passage through ice up to eight feet thick. Two of the *Lenin's* three reactors will be used for normal operation, with the other held in reserve. The vessel is equipped with high-speed pumps capable of pumping 4,000 tons of water an hour into tanks in the bow to assist in breaking through heavier ice. The water pumping system also can be used to rock the boat free if it becomes trapped in an icepack.

The three reactors of the *Lenin* are submerged in water and surrounded by an iron and concrete shield weighing more than 3,000 tons. Exhaust air from the engine room will be cleaned in a special filter and disposed of through the hollow main mast and radioactive water will be accumulated in sealed tanks and disposed of on shore. The *Lenin's* main task will be to keep open the 11,000-mile north-eastern trade route around the coastline of northern Siberia between Murmansk and Vladivostok.—News item.

JAPAN

Helicopter Squadrons

The Japanese Ground Self-Defense Force is procuring United States-made *Model 44* helicopters for use in the transport helicopter squadrons planned for the Japanese Army. The *Model 44*, which is an improved version of the *H-21 (Shawnee)*, is a tandem-rotor vehicle that can carry 20 soldiers or 12 litter casualties. Other forces using the *Model 44* are the United States Army in the US and the Far East, the United States Air Force in Europe, the German and French Armies, and the Swedish Navy.—News item.

Missile Budget

During the forthcoming year, Japan plans to double her expenditure for rockets, guided missiles, and submarines. Among the missiles planned for procurement are the United States *Sidewinder* air-to-air missile and a Swiss anti-aircraft weapon.—News item.

Shipbuilding

Japan topped the world in shipbuilding in 1958 with the construction of 416 vessels totaling 2,066,669 tons. This included the world's first tanker in the 100,000-ton class, the *Universe Apollo*. The big tanker, which has a loading capacity of 103,000 tons of oil, is slightly less than 950 feet long and has a depth of 67½ feet. It has a top speed of 15 knots.

Second place in shipbuilding for the past year goes to West Germany where 388 vessels of 1,429,261 tons were launched.

Third and fourth rank went to Great Britain and Sweden respectively. No data is available on construction of vessels in the Soviet Union and Communist China.

The United States, which is in fifth place, approximately doubled the construction of the previous year by launching 64 vessels with a total tonnage of 732,381 tons.—News item.

FRANCE

Naval Missiles

Missiles in the French naval arsenal include the *SS-11* (MR, Dec 1957, p 70), a naval version of the standard antitank missile planned for use against small craft and in support of landings; a radar-guided ship-to-ship missile that also may be used against shore installations; and three different types of ship-to-air missiles.

The radar-guided ship-to-ship missile, the *Malaface*, is 20 feet, eight inches long, has a range of 25 miles, and carries a 1,545-pound warhead. An antisubmarine version of this weapon, called the *Malafon*, is to be installed on the 3,750-ton anti-

submarine warship, *La Galissoniere*, now under construction. The *Malafon* uses acoustic guidance under water.

The ship-to-air missiles are the *Maruca*, *Masurca*, and the *Masalca*. The guidance system of the *Maruca* is integrated into the guidance system of the ship-to-ship *Malaface*. The *Maruca*, which is 15 feet long and weighs 1,015 pounds, has a range of 11 miles. It uses a liquid propellant rocket motor and attains a speed of Mach 0.85. This weapon, which utilizes radar guidance, also is used as an experimental and training missile.

The *Masurca* has a solid propellant motor and achieves supersonic speeds, weighs 2,205 pounds, and has a range of about 15 miles. It uses semiactive radar guidance, and is said to have performance comparable to the United States *Terrier*.

The *Masalca* is a smaller weapon with a range of about 60 miles, using semiactive radar guidance.

All the above missiles will be tested in the *Ile d'Oléron*, a 7,500-ton former German vessel that has been converted by the French Navy for missile test purposes. This vessel will carry ship-to-air and ship-to-ship missiles, and will be equipped with two ramps for launching target missiles. The missile test ship also will have two helicopter platforms and an elaborate electronic system for control and evaluation of the weapons to be tested.

Plans for the future include the conversion of anti-aircraft cruisers with missiles replacing guns as primary anti-aircraft weapons, and the construction of a new family of missile-carrying warships in the 2,500- to 5,000-ton category.—News item.

FIJI ISLANDS

Ready for Jets

The runway of the Nadi international airport in Fifi is being extended from 7,000 to 11,000 feet to accommodate jet aircraft.—News item.

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CANADA

DEW Line Control

Officers of the Canadian Royal Air Force have taken over as commanders of four main Distant Early Warning (DEW) Line sites at Cape Dyer on Baffin Island, Hall Lake on the Melville Peninsula, Cambridge Bay on Victoria Island, and Cape Parry on Amundsen Gulf. The shift of control of the sites involves 20 Canadian officers, all of whom are United States trained.

One United States officer is to be retained at each of the four control stations for liaison with the United States contractor who maintains the sites. Other stations on the DEW Line are auxiliaries and have no military personnel. A total of 709 civilians are employed in operation of the DEW Line, of which about 90 per cent are Canadian.—News item.

EAST GERMANY

Russian Is Taught

The Russian language once again is compulsory as the first foreign language in East German schools. It was compulsory as the first foreign language in secondary schools prior to November 1956, at which time it was replaced by English and French in some schools.—News item.

Learn About Lower Ranks

All East German Army officers, including general officers, are to serve as ordinary soldiers for at least four weeks a year to learn about life in the lower ranks. It also has been proposed that all civil servants and full-time employees of the party be required to do one month of manual labor each year.—News item.

WEST GERMANY

Naval Program

Included in the construction program of the German Federal Navy are 12 destroyers, six fast frigates, two minelayers, 12 submarines, 48 minesweepers,

40 motor torpedo boats, and numerous support vessels. The 12 destroyers are to displace 2,800 tons and are planned for a speed of 38 knots. The first of these vessels is planned for completion in 1960-61.

The six fast 1,700-ton frigates will have a speed of about 32 knots and are announced as a new type of antisubmarine warship. The first is to be completed in 1960 and the remainder during 1961.

The two high-speed minelayers will displace 2,500 tons and are planned to be able to carry 100 mines. The 12 submarines, with displacement of 350 tons, are currently under construction. Of the 48 minesweepers, 18 will be of 370 tons with wooden hulls and diesel power, and engines made of nonmagnetic materials. The first of these coastal vessels was delivered to the West German Navy in 1957, and the rest are planned for delivery by the end of 1959. The other 20 will be inshore minesweepers of 200-ton displacement with a speed of 21 knots. The 40 motor torpedo boats of the *Schnellboot* type are armed with four 21-inch torpedo tubes and can carry four mines. They will have a displacement of 150 tons and a speed of 43.5 knots.

The second of seven frigates has been turned over to the West German Navy by Great Britain (MR, Mar 1959, p 90). The new vessel, the ex-*Actaeon* of the *Black Swan* class, was refitted before the transfer, and will be used by the German forces as a training ship. The ex-*Actaeon*, originally commissioned in 1944, displaces 1,975 tons and is capable of a speed of 18 knots.—News item.

Change in Plans

Plans for acquiring the *F-104 Starfighter* for the West German Air Force have been modified by increasing the number of the aircraft to be procured from the United States. The original announcement was that six to 10 of the

record-making *F-104*'s would be purchased and about 300 would be produced under license in West German aircraft factories. It is now planned that 96 production models of the *Starfighter* will be procured from United States sources, although negotiations for their purchase have not been completed.—News item.

'Mace' to Europe

The *TM-76A Mace* (MR, Sep 1958, p 77) is to replace the *Matador* missiles in United States military units in West Germany. The *TM-76A* achieves a speed of Mach 0.9 and has a range of over 650 miles. It utilizes the ATRAN guidance system which relates a film strip, actual or synthetic, to the terrain over which the missile flies. The 44-foot-long *Mace* is carried on a special "translauncher" which serves both for transportation and as a zero length launcher. The *Mace*, an improved development of the *Matador*, has a wingspan of 23 feet and weighs an estimated 13,800 pounds at launching.—News item.

DENMARK

Submarine Launched

The *Delfinen*, the first submarine to be built in Denmark in 17 years, displaces 550 tons standard and is 177 feet long. The other two undersea vessels of this class are the *Spaekhuggeren*, which is nearing completion, and the *Tumleren*, now in an advanced stage of construction. These submarines have diesel engines of a new type that give them a surface speed of 13 knots, and electrical motors for an underwater speed of 12 knots. They have a radius of action of 4,000 miles, are snorkel-equipped, and are armed with four 21-inch torpedo tubes. In the Danish Navy these three submarines will take the place of the three U-class submarines previously chartered from Great Britain, two of which have been returned.—News item.

CAMBODIA

Link to Sea

The international cooperation of France and the United States is providing Cambodia with its first direct link to the sea. The United States is building a 145-mile-long road, connecting the capital city, Pnompenh, with Kompong Som on the



Gulf of Siam. France is building the harbor facilities at Kompong Som, and beginnings have been made on an enlarged port city to be renamed Sihanoukville, after Cambodia's Premier, Prince Norodom Sihanouk. The port will be able to accommodate vessels of up to 10,000 tons, and handle about 250,000 tons of cargo a year. The road is of asphalt pavement 22 feet wide, with extended shoulders for use by ox and pony carts.—News item.

FINLAND

Icebreaker Launched

The launching of the world's largest conventionally powered icebreaker has been announced, and work on a second such vessel has been started. The engines of the ship, which was built for the Soviet Union, develop 22,000 horsepower.—News item.

MILITARY DIGESTS

Man and Morale

Digested by the MILITARY REVIEW from a copyrighted article by Aleksandar Vojinovich in "Vojno Delo" (Yugoslavia) Issue 4-5, 1958. Translation by Mr. LaVergne Dale, Leavenworth, Kansas.

THE matter of morale constitutes a problem of great complexity in the war of the future. The intensive development of technology and modern weapons also has, in spite of the latter's deadly power, required the enlargement of armies as was reflected in the massive participation of men in both World Wars. In World War I 19 nations participated with approximately 65 percent of the total population of the terrestrial globe, while in World War II there were considerably more—30 nations with about 85 percent of the population. The increase in the size of armies is quite evident also. In World War I the German coalition possessed 380 divisions, and in World War II the Axis Powers possessed 530 divisions. A similar situation existed in the other camp.

The experience of both wars shows that simultaneously with the development of production means, science, and industry, new military matériel and new weapons also evolve and improve. New military matériel and new weapons, therefore, do not lessen the role of man, but on the contrary, even increase his role and his participation. There is little doubt but that this tendency will further develop in the war of the future in the presence of the nuclear weapons and other modern military matériel and means of warfare.

Nuclear weapons increase the need for

wider dispersion of forces and a looser style of combat formations. For this reason they are comparable in their influence with firearms, for example, the machine-gun which compelled the belligerents to open up their combat formations. Dispersion of forces necessarily leads to an increase in the expanse over which actions take place. So, on the one hand the massiveness of armies and, on the other, the influence of firearms have increased the expanse required for the unfolding of operations and battles.

From the small and restricted expanse on which armies clashed in the past, military actions today embrace broad expanses, and fronts extend over thousands of miles. Similarly, nuclear weapons will, by their action, lead to further dispersion of forces and to conducting operations over still broader and deeper expanses than was the case in past battles.

The unfolding of the operations of war onto such broad expanses will require a still more massive army and more massive participation of individuals. At the same time the possibility and probability of the still greater increase in depth over which the military actions unfold, will require the participation of all the inhabitants of a country, so that the distinction between front and rear will be well-nigh erased. This fact leads to the conclusion

that participation of individuals in future war will be far more extensive.

The greatest influence on the massive increase of armies will be due to the effects nuclear weapons (weapons of massive destruction) achieve when favorable targets are presented to them. Such effects will create major personnel losses and a tremendous replacement problem. In fact, the greater the losses the greater will be the need for making up for them. Practically speaking, this means the massive participation of the entire nation in the war.

In this light, morale is of special interest. What kind of individual does the combatant of the future need to be? What moral qualities must he possess? Above all, what influence will the new weapons have on the psychology of the combatant and the state of his morale?

The Past

At the time of the advent of firearms the idea was put forward that these would cast a shadow over man's courage and his indispensable qualities for conducting war by means of the spear, the arrow, the sword, and other means. As an analogy it could be said that nuclear weapons today are what firearms once were to the sword and other cold weapons. However, the truth is far different.

The theory that valor no longer had a place with the advent of firearms was long ago disproved. Actually, the development of new types of weapons and other modern military matériel and, especially, the advent and development of atomic weapons, demand from man far more intelligence, physical proficiency, and courage than any previous war has required.

In times past the most courageous fought in duels or, by their example, led entire units after them. The most courageous, with the standard in their hands, charged the enemy at the head of entire regiments. But how will it be in the future? Will this change in a war in which nuclear weapons may be used?

To this query we must reply—by no means.

Units will no longer attack en masse. The commander will no longer watch over his men in an integral unit. The combatants often will be widely separated from one another and there will be no close mutual support between them. Isolated individuals and smaller units often will operate independently. Hence the nuclear weapons not only require individual heroes and courageous units but also mass courage; courage on the part of every combatant; courage which is the result of individual awareness of the necessity for resisting the adversary.

The Future

In the war of the future, man will continue to be one of the most complex and most important elements. On him, and on his efforts and will, the outcome of the war will depend. He is, however, a living being subject to influences and changes so that under the new conditions of war, in his psychological aspect, he will become even more complex.

It would be erroneous to go so far as to assert that man is, in all cases, the decisive element. This would imply that he is, even unarmed, able to withstand the action of military matériel. It would be just as wrong to assert that matériel is everything and that it is able, with no regard to man, to solve the problem of war. Both elements are almost equally important. However, it must be borne in mind that the man is the creator of the military matériel, that he devised it, and developed with it. In fact, he governs it and gives it life, and all this means that he is one of the factors for which there can be no substitute.

Modern war, as we have stated, requires a massive army that is able to control and make effectual use of modern matériel. Modern war also requires man to have a knowledge of the tactical capabilities of modern technical matériel as well as the

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ability to withstand the effects of that of the enemy. But matériel should not be the subject of idolatrous worship. While it may serve many as a means of heightening morale, it also encourages their delusions.

Matériel

Although man and matériel in the war of the future will play an almost equal role, it is important, nevertheless, to consider closely their mutual relationship and, especially, man's relationship to the matériel of the enemy.

Matériel may be of different types and, at the same time, of different qualities. The gun may be old, new, or of the most recent type and so may be the tanks, artillery, and other combat means. The man (the combatant who operates these weapons) likewise may be of different qualities and ideas: he may fight with enthusiasm and full conviction of the justifiableness of the war, or aimlessly—not even aware of what he is fighting for. The men may be armed with both modern and old matériel. Some may have old models of guns and automatic rifles, and others new and modern ones. Each of them, however, possesses some matériel which can kill and with which it is possible to carry on a war.

Abstractly considered, with equal numerical strength, that side would have the advantage and would be destined to be the victor that was equipped with modern matériel—that is, if man were an unthinking machine, an automaton. Man, however, seeks out the best ways of using matériel and of applying the most appropriate tactics. Men, when organized, constitute a unit which, in turn, has its own tactics—its mode of employing weapons in battle.

When men are well-trained and tactically proficient it is much more difficult to say which one will be victor in the conflict, regardless of the quality of their weapons. If two combatants meet on the field

of battle—one with an old gun and the other with a gun of the newest model—no one can say, with certainty, that the one with the newest gun will conquer. The gun, regardless of its type, is not a guarantee of success, for both types are able to kill. It is probable that the gun that will bring victory will be in the hands of the more courageous, cooler-headed combatant who, because of these qualities, will employ better tactics.

However, if the newer gun is in the hands of the more courageous and better combatant, then it is certainly easier for him to obtain the victory. The same thing holds true for the unit in its relationships to other units with respect to modern matériel. But new and modern matériel does not, of itself, mean certain victory. In view of these facts we can conclude that it is possible to wage war, even with older technical means. However, this disadvantage must be compensated for by better quality on the part of the combatants.

The man, his weapons, the way in which he employs these weapons, and his conduct of the war are the most important elements. Of course, it can happen that even with good soldiers and modern military matériel an operation can fail solely because the tactics for the use of the modern matériel have been poor. These three elements are closely and mutually bound together. They complement one another and are dependent on many other factors.

Weapons and matériel—inanimate objects—are given life by man who is subject to both objective and subjective influences. The effectiveness with which weapons are employed depends on many factors. In addition, the tactics for the conduct of fighting, or of the employment of weapons, does not depend on the man alone.

Here many other factors appear: for example, terrain and enemy disposition. Man must harmonize his tactics and the use of his weapons and other matériel

with all these elements if he wishes to win victory. But tactics are not static. They, as is also the case with man, change in accordance with new conditions.

New Weapons

It is obvious from all this that the superiority of new weapons over old does not ensure success, just as it is not ensured, either, by the mechanical use of weapons and men. Success is achieved by means of a better, more capable, and more courageous soldier (or army, for that matter) as well as by means of the employment of more skillful and better tactics. This is the case when both sides possess the same armament. What outcome and what results can be achieved, however, if one of the belligerents possesses not only identical armament but also new weapons which its adversary does not have? Will this new armament ensure victory in advance? For example, is the possession of nuclear weapons and their use against one who does not possess them, a certain guarantee of victory?

On the surface it appears that the side inevitably would win which possessed the new (in this case, the nuclear) weapons. In reality, however, this is not the case. Incontestably, nuclear weapons and all other new weapons (such as the machine-gun, the cannon, the tank, and the airplane) provide certain advantages. Yet even in this case, the tactical employment of these weapons is entrusted to man. Here, man also makes his importance evident for *any new weapon is effective in the face of old tactics and old methods of waging battle.*

Nuclear weapons pose a threat to military formations and troop concentrations such as were common in World War II. Time changes, however, and every new weapon imposes new tactics of offense and defense. Man, against whom the nuclear weapon could be employed, is not a machine. He deliberates, he seeks solutions, and in connection with these activities his

creative powers are limitless. Neither the soldier, by means of his rifle, nor the army, by means of its cannon, will be able to thwart the atomic explosion. However, they may succeed in escaping the nuclear effects through their knowledge of the action of the weapon and the employment of appropriate tactics. Man will, moreover, modify his tactics and methods of action against the infantry and armored forces of the enemy and will deal him blows in a new manner.

Nuclear weapons would be very effective against the tactics of the First and Second World Wars, but their efficacy will be considerably less against new, creative, and properly adapted tactics. In this case, success does not reside in opposing the enemy with the same tactics that he employs. Rather, some other tactics must be used which ensure escape from the losses otherwise inflicted by the nuclear weapons and at the same time assure the defeat of the enemy's field forces and the destruction of his remaining matériel.

Fundamental Role

In the employment of these tactics, man plays the fundamental role. If he knows little or nothing about the new weapons and if he acquires, in advance, the conviction that it is impossible for him to combat these weapons, then it is perfectly understandable that he will be unable to resist them. But if man is resolved to fight to the finish (and when we say "man" we are also thinking of the entire nation) then a way out of every situation can be found, however difficult it may be. For this reason it is important that man become acquainted with new tactics and new weapons, not only with an aim to their employment but also to protect himself against them and discover corresponding tactics for the conduct of his fighting. Considering these things, the possession and use of some new weapon does not, in itself, mean certain victory.

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Here, man (the army with its creative force and spirit) is of great significance. Whether he will be victorious or not depends on his creative and skillful tactics—that is, the proper employment of his weapons.

Surprise

The appearance of every new weapon is shrouded in secrecy. At the beginning, its tactical and technical capabilities are not known. It results in surprise and losses. Often this surprise remains within the framework of tactics and operational skill, but at times it assumes strategic proportions when its psychological effects become excessively great.

The appearance of poison gas and tanks in World War I produced panic and losses not so much because of their effects, but because those against whom they were employed were not acquainted with them, and hence took inadequate protective measures. If the Allies had been acquainted with the effects of war gases and had expected their use, the results would have been different.

Similarly, the enemy's tanks at the beginning of the Yugoslavian National War of Liberation constituted a "bugaboo" only so long as we were unacquainted with them. Later, our fighters easily liquidated them with ordinary hand grenades or bottles of gasoline.

By using atomic weapons against the unprotected and unprepared populations of Hiroshima and Nagasaki, great surprise was achieved and great loss of life and property damage resulted. But, to their effects, excessive significance was ascribed. With the passing years there grew the legend of the atomic weapon, particularly that of its dangerous radiological action. For the uninitiated public and the uninstructed combatant, this can constitute a great psychological problem, for action of this type is impalpable and cannot be perceived by any of man's senses. Although this weapon possesses mighty

blast, thermal, and radiological actions, none of these is its most powerful effect.

The greatest influence and the most powerful effect of the nuclear weapon is exerted against the psychology of man and the entire populace—against their morale—for it evokes and intensifies fear. This fear is not the result of actual knowledge of the atomic weapon and its real action, but the result of *lack* of knowledge concerning it and of the secrecy with which it was enshrouded at the very beginning. Against this kind of psychological action one can fight successfully only by means of thorough instruction and by means of real acquaintance on the part of the army and the populace with the nature and concomitants of the nuclear explosion.

Knowledge concerning its blast, thermal, and radiological actions is convincing to everyone that the nuclear weapon is not so terrible as was believed at first. Specifically, an acquaintance with the action of radiation and knowledge of the employment of Geiger counters and dosimeters can have a favorable influence. Conversely, lack of knowledge concerning this weapon and its action certainly is a great ally of the adversary.

Psychological Warfare

An eventual future war will not be fought with modern matériel alone. It will also be fought with psychological means. This no longer consists of simple military propaganda, but is a war that is planned in scientific detail. The human mind is minutely studied and its weaknesses sought out so that the most favorable means and the best tactics may be employed, just as during an attack on a fortified position.

Hitler conducted a psychological war in a number of lesser nations, preparing the capitulation of the majority of them in advance. Since the end of World War II, all countries have devoted particular attention to psychological warfare. It is not an exaggeration of the truth to assert that psychological warfare is quite as impor-

tant as armed conflict. So long as the psychological war is not lost—and this means, as long as the will of the man to resist remains unbroken—armed conflict can still be carried on. But the moment the will to resist is broken, by whatever means it may be, the war in general also will be lost. It must be borne in mind constantly that the psychological and material wars are bound together closely and that they complement one another.

The aim of psychological warfare is to break or diminish, regardless of means, the morale of the adversary's armed forces and populace. Therefore, the principal objective of psychological warfare is man and his morale. Everything, in fact, is employed against him, from the most naive to the most underhanded and perfidious means.

Psychological war begins long before the armed conflict, for it is necessary to prepare the soil, rendering the success of the armed conflict easier. The psychological exaltation of one's own combatants and populace is also part of this preparation.

As in every other kind of warfare, psychological warfare has its offensive and defensive aspects. The methods and manners in which it is conducted are very diverse. One of its forms of action is propaganda which constitutes a very dangerous weapon of considerable effect, and against which it is difficult to fight.

Propaganda is more dangerous if based on fact. If untrue and exaggerated, it may have a reversed effect. Thus immediately after the appearance and employment of the nuclear weapon, propaganda of fearsome proportions was developed in some countries, representing it as the absolute weapon that would resolve every future war. In this picture, man was relegated to a subordinate role. When test explosions began to reverberate in a country which could become an adversary, panic seized these first countries.

"What will happen if this all-powerful weapon plunges down on *our* heads?" the people said.

A great deal of time and effort have been required for arriving at the actual facts concerning the nuclear weapon and for people to regain, to a certain degree, a belief in their own strength. False and rash propaganda directed against an enemy, and even more so when circulated among one's own population, can be a boomerang, returning with double force.

Morale

To gain a victory means to crush the enemy morally, for his morale is the foundation of his physical resistance. In the battle which centers around morale, we obtain a close view of both the role of the man and his relationships.

Morale is a very complex phenomenon. It embraces a large number of questions and relationships of human activity and depends on a large number of influencing factors which at various times and, to a greater or lesser degree, may exert considerable influence on its strength or weakness.

In ensuring high morale on the part of armed forces and populace and in maintaining it during the entire course of the war, the missions of the statesman and the strategist are most important. Clever plans, war matériel, and the training are futile if the combatant does not possess the will to fight—if his combat spirit is broken through fear of his adversary.

The creation and maintenance of high morale, in spite of all the destructive action of the enemy's matériel and psychological warfare, will be possible only when there exists a sound foundation for it. One of these foundations is the justifiableness of the war.

If the war is imposed on the populace, and if the latter is convinced that fighting is the only way for the country to defend itself and preserve its independence, then

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a country possesses one of the most important factors for building and maintaining high morale. However, for man to comprehend the indispensability of defense as the sole means by which he can preserve his country, the love of liberty and independence beyond even love of life continually must be fostered in him.

He must possess a clear perspective of his fight and must comprehend the fact that life without liberty means nothing. His morale and his will to fight will be greater to the extent that his concept of national liberty is combined with a clear political perspective. On the other hand, the combatant who does not see the reason why he should participate in war or who is an aggressor, cannot possess these qualities for he is far more subject to the influence of various factors and very quickly loses his morale when he meets hardships.

The morale of a nation depends on its

social structure, national characteristics, traditions, production potential, and social and other vital conditions. In addition, the morale of the combatant is influenced by his skill, armament, subsistence, security, success or lack of it in fighting, reciprocal ties, confidence in his command and instructions, the duration of the war, hardships and privations of different kinds, excessive losses, and many other factors.

It is plain to be seen that without morale both the man and the war are lost.

The man of high moral qualities is able to endure enormous strains, for in morale resides a measureless and inexhaustible energy. In short, morale will be the deciding factor in the war of the future. And because it, too, changes under the influence of varying factors and conditions, a constant fight is necessary for its retention.

Strategic Review--The Nature of the Challenge

Digested by the MILITARY REVIEW from an editorial in the "Australian Army Journal" June 1958.

MOST of us have a good general idea of the Communist theory propounded by Karl Marx, an important feature of which is that "the inherent contradictions of capitalism will bring about its own downfall." A good many of us, however, forget Nikolai Lenin and the addition he made to the original theory.

Facing up squarely to the practical problem of transmuting communism from theory to reality, Lenin concluded that it was by no means certain that the predicted changes in the social-economic structure would, in fact, take place unless the process was assisted, hastened, and guided by a political party of dedicated revolutionaries willing to accept a rigid party discipline.

Lenin demonstrated the worth of his idea by his brilliantly successful manage-

ment of the Russian Revolution. Ever since then his teaching has been an integral part of orthodox Communist doctrine.

Long ago Communist theories developed a process of reasoning by means of which it can be proved easily that anything, positively anything, is justified if it contributes toward the attainment of the ultimate aim—the establishment of communism throughout the world. It is the facility to think in this way, added to the fanatical teachings of Lenin, that makes modern Marxism-Leninism so dynamic, so ruthless, and so dangerous.

The Communist Party founded by Lenin remains "dedicated" in every sense of the term. It pursues its aim with a steadiness and singleness of purpose seldom equaled in human affairs. If it is rigid in its strict

adherence to doctrine, it is anything but rigid in the means employed to implement its designs. It is extraordinarily flexible in its adaptation of means to ends. Only the aim remains constant; strategy and tactics are varied to extract the utmost advantage from every permutation and change in the general situation.

The Basic Design

Reversals of policy, withdrawals, and changes of emphasis are all parts of the basic grand design. The party has no hesitancy in taking a step backward if it appears that ultimately that will place it in a better position to take two steps forward. Expediency, and expediency alone, is the keynote of all Communist action.

In all Communist countries the party is the government. Everything is done under party direction, guidance, and control. Nothing is done without party approval. Since party and government are indistinguishable, it follows that we must regard every act of a Communist government as an act inspired and approved by the successors of Lenin's band of dedicated revolutionaries.

In our very human tendency toward escapism, we are prone to see in events in Communist countries clefts in the monolithic structure of their political organization and departures from Communist doctrine. But, as a matter of fact, any changes that have occurred recently in Russia and China merely are shifts in emphasis to extract the utmost value from conditions or developments within those countries.

The liberalization measures initiated by Nikita Khrushchev are intended merely to enable the intellectual class nurtured by the party to serve the aims of communism with greater efficiency. And the party will see to it that these measures do just that and nothing else. In China the "Let a Hundred Flowers Bloom" speech of Mao Tse-tung was intended simply to bend certain Chinese traditions

to the service of communism. We delude ourselves if we imagine that any fundamental change in Communist policies or attitudes has taken place, or is likely to take place, in the immediate future.

Use of Force

The Communist Party has given ample proof that it has no inhibitions about the employment of force where the conditions are favorable. In Korea and Indochina the force was applied indirectly by proxy. The governments of Russia and China kept themselves in a position where they could counter any charge of being involved in those conflicts with an air of injured innocence. In those days, only the West possessed the massive deterrent on a scale of superiority high enough to make it effective.

Somewhere about the middle of 1956 the Soviets apparently felt that they had sufficient nuclear headway to challenge the West more or less directly in the military field. The threat to bombard Great Britain with guided missiles at the time of the Suez crisis was only thinly disguised, while the Soviet Government made no bones at all about openly sending in its armies to crush the Hungarian revolt.

These events could mean that the present rulers of Russia are fools, or a group of irresponsibles prepared to gamble with the dread possibility of total nuclear war. Or, they could mean that the Soviets consider that their own progress in nuclear science and guided ballistic missiles had established a state of nuclear equilibrium in which their preponderance of conventional military forces gives them the advantage for the time being.

If Khrushchev and his associates were fools or irresponsibles they could never, in the bitter struggle for power which characterizes Soviet politics, have established themselves at the head of the Russian Government. Despite their theatrical posturings, we must rate them as shrewd,

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competent, and ruthless men who will stop at nothing to gain their ends. If they consider that the present balance of military power confers the advantage on them, if they see in it a favorable moment for the expansion of their authority and influence, we must expect, in the immediate future, an increase in Communist pressures, backed by the threat of armed force.

Strategic Area

Soviet actions in the past suggests that communism seeks to expand outward from the center. In this way the strong core can nourish the offshoots, and the heartland can give military and economic support to its satellites. The meeting line between the two great world power blocs lies in the periphery of the Eurasian Continent, geographically vulnerable to just such Communist expansion.

The industry and skilled population resources of Europe, the oil of the Middle East, and the raw materials of Africa and Southeast Asia—all are accessible via land bridges from the USSR. Moreover, these areas contain the bulk of the world's population to which the Soviets seek to spread the philosophy of Marxism-Leninism.

If any of these areas passes from the control of the West to the control of the Soviet Union, the incidental transfer of resources will weaken the one while strengthening the other, to say nothing of the transfer of strategic advantages. If the Soviets were able to overrun western Europe they would control about 55 percent of the world's production of finished steel and about 45 percent of the world's electric power production. In addition, they would be able to bend to their service a numerous and highly skilled labor force.

Indirect Approach

Although the conquest of western Europe is a primary Soviet aim, any direct attack probably would result in full-scale nuclear war. Since the Soviet leaders are not likely to wish to bring catastrophic

destruction upon the sacred soil of the Communist heartland, they probably will seek to achieve their European objectives through a strategy of indirect approach. Unfortunately for the West, there exists a convenient line of indirect approach, the exploitation of which could bring the Soviets appreciably closer to their European objectives. At the same time, this enables them to win other important economic and strategic advantages.

This line runs through the Middle East. That area contains 75 percent of the world's proved oil reserves, and a great deal of the world's current production comes from there. When this current production was interrupted temporarily during the Suez crisis, very serious strains developed in the European economy. If the Soviets could gain control of this oil, they could play havoc with the entire economic structure of western Europe. The mere ability to exert such a stranglehold would place them in a very favorable bargaining position.

Nor is Persian and Arabian oil the only economic prize beckoning the Soviets toward the Middle East. Control of that area would bring them a big step nearer to the uranium and other minerals of the Congo Basin, and to the natural resources recently discovered in the Sahara.

Immense strategic advantages would accrue to the Soviets if they could gain access to the Middle East. They would have outflanked the Dardanelles and won access to the Mediterranean, Africa, and the Indian Ocean. They could establish air and submarine bases on the flank of the European communications with Australia and the Far East. And they would have a convenient base from which to spread their influence along the southern shore of the Mediterranean to the Atlantic.

Economically and strategically the prize is a glittering one. It is no more than simple realism to expect the Soviets to make

every effort to win it. Already they have gone a long way toward securing a firm foothold in an area where local antagonisms have produced an explosive situation ripe for exploitation. In the immediate future we should expect to see intensification of Soviet efforts in this area, not inconceivably leading to the intervention of Communist bloc "volunteers" on the Korea and Indochina pattern.

At the moment most diplomatic activity seems to center around the much discussed summit conferences. It is not improbable that the Soviet aim is to secure a tacit recognition of the *status quo* in eastern Europe. If they achieve that, they will have secured their European flank to some extent at least, and gained a corresponding measure of freedom to concentrate on the Middle East.

National Armies and the Defense of Europe

Translated and digested by the MILITARY REVIEW from a copyrighted article by General R. Brygoo in "Revue Militaire Générale" (France) June 1957.

A COMMUNIQUE published during the visit of the President of the French Council of State in Washington, D. C., declared that the security of a free world depends upon the strength of the NATO members on the European Continent. Their forces must be equipped with traditional as well as new weapons in such a way as to discourage any form of aggression against any country that is a member of NATO.

The defense of Europe, however, is not specially mentioned in the communique. Instead, the defense of the free world and the protection of every member of NATO is stressed. But common defense remains Europe's main problem. American support and the participation of the American Army as a partner in the defense program is most vital.

When "new weapons" are mentioned today, everyone understands "atomic weapons," which means "American Army" or at least "weapons provided by the United States." In the present situation American divisions and squadrons actually are stationed on the Continent. Their soldiers are well-equipped with and instructed in the use of the latest atomic weapons. They represent the most solid pillar in the structure of European continental defense.

This situation is justified in the eyes

of the American taxpayer. To him the radar coverage and the use of territory on the European Continent by the United States Air Force are necessary and indispensable for the defense of America.

But it is a fact that the presence of the American soldier will not amount to more than just another military defense contribution once the intercontinental powers are integrated sufficiently. This will stop the arguments of the opposition which maintains that the American soldiers are only in Europe to defend the Cathedral of Cologne, the Tower of London, the Folies-Bergere, and the Eiffel Tower. It is high time that Europe became conscious of those facts, that the constant haggling be stopped, and that the nations pull together for a worthwhile effort.

European Responsibility

The surest means of keeping the major units of the United States on the Continent is to make a reality of European defense. It hardly can be confirmed as a reality now. Many of the chiefs of staff of the NATO command have publicly expressed their alarm over the disastrous disproportion of the means at their disposition and the width of their task range.

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ropean theater of operations appears a very small place as compared with the theater of world operations used by the United States and Russia for their plans. One can see in the American foreign policy as it concerns NATO, the desire of the United States not to leave Europe a doomed prey to communism. To make this policy strong enough to survive the occasional rifts between the United States and one or the other of the European nations, the military might of Europe must stay alive. This is the responsibility of the European nations.

The warpower contributed by each nation to the common enterprise is usually the center of discussion, as the general defense against a land invasion depends on it. But currently it seems to be more of a weapon for parades and perhaps counterattack than a useful shield. It has to be made of better metal, hardened, and placed completely under the control of the supreme NATO commander. It is easy to understand how much simpler his task would be if he could address himself just to two interlocutors, the American Government on the one side and the European organism on the other, at least on battle corps level. Instead, he is confronted with an intricate coalition that is diversified down to the last army corps.

Territorial Responsibility

Participation in the combat force is not the only military responsibility of the occidental members of NATO. An entire series of "static" territorial missions must be devised in order to make the combat force combat ready. According to the wish of the defense community, NATO left it to its individual member nations to defend a self-selected territory, and it was understood that the credit going to the defending country would be equal to the importance of the occupied territory.

There is, for example, the responsibility for radar maintenance and protection, the protection of airbases and ports, safe and

guaranteed radio communication, communication lines by road, railways, boats, and the acceptance and care of refugees. The difficulties encountered by Austria during the recent exodus of Hungarians are a good indication of the eventual importance of the refugee problem for the NATO chiefs of staff in another world war.

If those regional missions must remain missions of "national responsibility," their importance for the common cause eventually will bring about a fatal standardization of methods and lateral liaisons, as well as a "right" of the occupation of high military posts in NATO, the great regional commands of North, Central, and South Europe, the Supreme Command, and the Standing Group.

There also are military missions that are not directly connected with the defense itself. Here, each nation is the only judge as to its necessity and importance. The term "military mission" is, therefore, too limited for this kind of task and it would be better to use the term "national defense mission." Otherwise, the common defense encounters more or less the same problems according to the varying geographical position, importance of population, strength of opposition in government, and overseas obligations.

Three Missions

Every European nation belonging to NATO needs an armed force that is able to meet three clearly defined demands:

1. Defense mission of a battle force, always combat ready and equipped with the latest weapons, ready to serve under allied command outside of the home country.
2. Static mission under national command to act only within regulations determined by the Atlantic allies.
3. Undefined missions dependent upon the country and ranging from the maintenance of order within the country to help given to some other associated nation by agreement independent of NATO.

Is it still sufficient for the fulfillment of

these different missions to rely solely upon the draft in order to provide a contingent of regular troops stiffened with a draft of recruits?

This has been the normal procedure so long as the needs arising from the organization of NATO were still undefined. But this has changed.

New Problems

The battle force, for example, requires a quick solution. It is dangerous for it to remain subject to the financial and political crisis disturbing some of the NATO members. Today, more and more nations realize the necessity of a common action on different matters. It is difficult to understand why they hesitate before their most important and common problem, their own defense. The regrettable failure of the European Defense Community (EDC) wasted a considerable amount of precious time.

A real European army including all members except the Americans could replace the EDC quite effectively. It would be a professional army, but the contingents of the different countries would serve without renouncing their nationality. Organization and training would take place in common camps, supervised by commissioned and noncommissioned officers with similar training received in European military schools. Only such an army would be technically qualified to meet the requirements of modern warfare economically and effectively.

Professional Army

Every day our weapons become more complicated, more expensive, and more powerful. The demand for a specialized, well-trained, and prepared force is, therefore, only just. Even if the organization and maintenance of a professional army is expensive, it would be more economic in the long run because of the better results it would obtain.

Everything General De Gaulle wrote in 1934 to justify a national professional

army in his book, *Vers l'Armée de Métier*, is not only still valid but becomes even more important on a higher European level, for it requires not only the best in matériel, but also an army that is constantly on the alert. As General De Gaulle expressed it:

The men must be young, their military instruction and training rough as needed to achieve a well-trained body and spirit. Required missions demand intelligence, foresight, and other qualities found among younger men only, such as love of danger, for example, or weak emotional ties. Nothing like habit, interests, and family ties should slow down the troops. The professionals, on the other hand, should serve long enough to make their moral and technical organization valuable. But they should not be kept beyond the point where habit becomes routine. Those who are enlisted at 20 years of age should be given about six years to reach that point.

Some might object and ask what the moral force would be that could bring an international battle force together. Above all, there will be one thing that is necessary to make a soldier valuable—the military spirit. Here again General De Gaulle wrote:

A group of soldiers led by this military spirit achieves the greatest possible military coordination. Other passions and momentary desires may also arouse the masses, but only the military spirit manifests itself in the desire to live, act, and even die together for this powerful genie. . . . Such is the power of this ferment of collective energy that it remains eternal and universal. The same power that held the legions together reappeared under the English forces at Crécy, among the Prussians at Leuthen, and the French troops at Verdun. By force of common instincts and traditions the different armies will form the most real international army.

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others might be born on the other side of a sea, a great river or a mountain chain, or speak another language.

If the nations could limit their defense budgets to a contingent of volunteers for the battle force, and if they could leave the maintenance of these forces to a common budget, then one would have to fear that people might lose interest in their national defense. They would react like the owner of a house or a car who insured his property against fire and theft and, once he has paid his initial fees, does not care how the insurance company operates.

Nothing of that kind is to be expected. Indispensable as it may be, the battle force is only one of many contributions. It is unnecessary to mention the will to survive without which nations are reduced to weakness, or at least to satellites. The collective national defense also calls for what has been mentioned before as static national missions, because these missions are the responsibility of each nation on its own territory.

Conscripts

Some missions have strictly military character such as the early warning services. The constant danger of a surprise attack demands well-trained forces always on the alert, but there is no reason why drafted forces should not be used in this service.

Training and instructions may be less complete than that of the professional soldiers, but must still be of the best attainable quality. Even though they are national units, they have to be coordinated on a European level. The same working methods, regulations, and cadres are required, and it is highly desirable that their equipment be the same. However, this does not mean that this equipment needs to come from the same factories. The integrated command of the member nations must not only watch over the equipment of the professional European army, but

also protect the interests of the national industries.

Peacetime

As important, or even more important, are the great national public services used by the command and troops of NATO in peacetime. Among them are telecommunications, communications in general, and railroads, for these must be ready not only to deal efficiently with the demands of war but also to withstand powerful destructive blows from an unexpected enemy attack. Here, every nation wants to remain its own master in a matter that is considered essential to the well-being of the state. It is, however, sufficient to observe that international agreements on telecommunications are already in an advanced stage, even before communications over great distances gain the actual importance they eventually would have in case of war.

Among all European civilians, the employees of the above-mentioned great organizations are those whose names appear usually and most frequently in the papers of the chief of staff as cadres of higher level and as executive agents in tactical or logistical exercises. Seven years ago the nations started to put a considerable amount of money into project infrastructure in order to increase and ameliorate their action in case of war. There remains, however, one great problem to solve: the lack of technical personnel.

Technicians

A look into accounts of parliamentary budget discussions of different countries is convincing enough to indicate the difficulties of the Civil Service Ministries in obtaining increased manpower for their "war tasks." They have nothing that would compare with the demands of better service in peacetime. The administrations cannot yet face the eventual increased traffic, vital destructions caused by enemy interference, and new needs resulting in situations that will demand an increase in personnel. To change this situation will be

one of the main concerns of the national armies.

It is a question of organizing units of technicians in peacetime to reinforce, in case of war, the personnel of the important public services. They have to be equipped with all means necessary to do repair and extension works otherwise not quite justified by commercial demands. Last, but not least, these emergency units will have to fill the gaps that will inevitably be caused by an enemy attack.

Above all, the army has to revise its training programs to create a better technical force. The distribution of effectives must be reorganized in favor of technical branches. The attitude of the army up to now has been to use the administrative services only to fulfill its rear area requirements, and even to take technical personnel from the administrative services for the army.

This, however, was only possible as long as the front sectors were comparatively small and the destructive force of weapons limited. In order to foresee and evaluate the risk of massive destruction and the relative importance of certain population and industrial centers, no other limits than the borders of the continents themselves can be drawn.

Very recently Marshal Zhukov declared:

"The Russian Air Force is capable of delivering a blow against any enemy at any place in the world."

It is only commonsense to expect him or his successor to say the same things under the same circumstances about rockets and guided missiles in the near future.

Therefore, we cannot expect, as in the past, that civilian technicians will be exempted from service in war. On the contrary, the forces will have to demand a permanent assignment of technical personnel.

For a solution I can see only the institution of permanent military units. The leaders of interested great public services

will have to adopt this view as well, even though it be step by step, and sometimes even against their liking.

Security

Security problems inevitably will arise. Conscious of the vital importance of their service in war, the great European administrations have, wherever possible, eliminated the danger of sabotage. This is only possible in an administration which permits a long and careful selection of personnel for the higher positions. On the other hand, there is a certain professional pride in the knowledge of being one of the wheels that keep the machinery going and make life possible for others.

I know many employees of all ranks personally. They were against any governmental restriction of the freedom of expression of government employees. They feel, on the contrary, a responsibility for self-supervision in war. They also watched the behavior of some of their colleagues whose professional conscience they feel might not be strong enough to withstand the pressures of partisans.

Is it possible to reach a reasonable level of security in the military service? There the entire population is mixed without selection, and passes a training period of 12 to 18 months under the supervision of many different officers and sergeants. Never, or only very seldom, is the instructor able to form an opinion and judge the men whom he knows only by their numbers.

This is one of the main difficulties of our modern national armies and, in general, of our democracies. In order to obtain the highly qualified technicians equal to civilian technicians in skill, we can only prolong his time of service.

Length of Service

It is high time to increase the length of service for the higher-level units equipped with technical weapons. Part of this time could even be served within the public

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services. Why don't we make the acceptance to those higher units dependent upon a *sine qua non* admission in the public services, railroads, transport in general, and communications, or even from an obtained certificate of professional aptitude proving the proficiency in the same skills. There is nothing revolutionary or arbitrary about this method. In a time where the individual demands the state to serve him in schooling, professional career, social security, and family allowance, it is quite normal that the state expects some additional service in return. There will be some resistance to overcome and taboos to be lifted, but all in all it is a necessary effort.

Only certain national missions like those mentioned and for which NATO is responsible require the constant maintenance of fully equipped and trained units. It is no longer necessary to extend the time of service to train young men in the military profession. That applies even more in the case of smaller units than in the major elements. These smaller units will have many tasks quite different from the national missions of the major units of NATO. Among those tasks will be: protection, local combat against invading paratroopers, and the handling of local disorders.

Regional instruction centers will train men for these tasks in less than a year. In order to enlarge their potential, the major units will have to draft part of the better reservists. It is necessary to mobilize small units locally. Repeated and frequent training and instruction periods will ensure a quick, safe, and automatic mobilization. Short periods will be sufficient. One week may be regarded as a maximum at the level of the small units and two weeks will be long enough for the general regional exercises.

This will be at the same time a compromise between the difference in time of service of the long or medium term of the

qualified technician and the short term of the average combat soldier. With a regional recruiting center well-chosen cadres may be trained and better qualified without loss to the national production. This soon will be appreciated by the affected men as a chance to meet old friends and comrades again, and will be appreciated as a real vacation.

Recruitment

The training periods recommended for "standard" soldiers will by no means be the same as for the technicians of the "higher level" units. The majority of these technicians should enter into the great public services or specialized industries after their service. Naturally, there they would maintain their particular skills and, at the same time, remain within their formations. The greater part of them will not be available to the forces as reserves: in war their place will be on their daily job. One has to be very careful not to displace them in the first two or three weeks of war, or until those responsible for the national defense recover from the first shock and find that they have survived.

They will find out that the enemy has not reached his first objective of war—disorganization of public life and paralysis of the command in the resulting chaos. Only after that, if the war is not over already, will it be possible to think of reinforcements for the military forces. Here it becomes clear that the units of technicians above the "higher level" units must expect little support from qualified reservists. Therefore, only their peacetime strength may be counted upon.

National Problems

Certain European nations have to face their obligations for a defense of Europe. They have only to add a contingent of professional soldiers to their battle corps, and to instruct and train units for special tasks. The obligations imposed upon the citizens do not presently go be-

yond a year's service, either in technical cadres or in active service followed by periods of training. A great number of them will only serve in "complimentary" missions in the organization cadres of the nation in war. These complimentary missions will be added to their normal duties. Among them will be civil protection, passive defense, or just an increase in the working time of the national defense industries. Generally, a number of instruction periods will be sufficient preparation.

For other nations, a different situation might cause more difficult problems. Because of the size of their population they have to provide for the creation of large reserve units. These have to be reviewed again and again at the same time that the active units undergo this inspection. In addition, they are responsible for other military tasks in peacetime. They have to guard the national interests overseas, the protection of maritime or aerial communication lines, the support of other nations independently allied or associated with

NATO, and they may even serve in emergencies in the interior of their nation.

The individual character of each nation and its history and social climate are additional factors contributing to a diversity that is already existent in the individual military tasks.

I hope that there will come a day when those tasks are European tasks for every member nation. It is already obvious, however, that NATO members must henceforth dismiss all antagonisms, especially for the "occidental" Europeans.

It was the Ambassador of France who spoke in the house where all these nations meet. He declared:

In a mutually destructive battle, humanity has begun a trend in Europe that has not yet ended. Confronted by open menaces, all nations conscious of the importance of a common defense must realize that their power is in danger, their rivalry negative, and only their union imperative.

How They Rewrite the History of the Second World War in the USSR

Translated and digested by the MILITARY REVIEW from a copyrighted article by André Pierre in "Revue de Défense Nationale" (France) February 1958.

FOLLOWING the 20th Congress of the Russian Communist Party, Moscow decided that the history of the Second World War had to be "de-Stalinized." On this the Kremlin "brass" agreed. But how and to what extent?

Nikita Khrushchev, in his famous secret report of February 1956, had annihilated the myth of Stalin's military genius. Previously, Stalin had been compared to Caesar and Alexander the Great, and praised as the "greatest military leader of all times." But now Khrushchev who had helped to create this myth suddenly pre-

sented him as the principal culprit responsible for the lack of the country's preparation for the war, and for the major part of the defeats suffered by the army. In an incredibly offhand manner he jumped from excessive praise to excessive blame, making the gravest accusations against Stalin. He all but declared him guilty of high treason. As he put it:

From the first day of the war it was obvious that our armed forces were insufficiently equipped, that we did not have enough artillery nor tanks nor airplanes to repel the enemy. The army did not even

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have enough rifles. I remember having made a phone call from Kiev to comrade Malenkov in those times, telling him, 'In the new army, we have volunteers asking for arms, send us a shipment of them.'

But Malenkov replied: 'We can't ship any of them to you. We have to direct all our shipments of guns to Leningrad. You are to provide yourselves with arms.'

Stalin refused to believe that Hitler was going to invade the USSR up until the last day.

Every warning was ignored—the reports of army commanders, statements of deserters from the enemy's army, and even the very outbreak of hostilities by the enemy himself.

Is this an example of alertness of the Chief of the party and of the State in this particularly important historical moment?

Besides being guilty of not having believed in the German invasion, Stalin was said to have made another mistake: From 1937 to 1941 he had decimated the general staff, and this had grave consequences particularly at the beginning of the conflict. According to Khrushchev, before the war the USSR had excellent military cadres

... who were unquestionably loyal to party and country. Here, I'm thinking of comrades like Rokossovski (who, as you know, was imprisoned), Gorbатов, Meretskov, Podlas (an excellent leader who died on the front), and many many others.

Continuing his account, Khrushchev said that Stalin's "irritability and hysteria" had repercussions on the military operations and caused heavy damages to the army. Stalin did not know a thing about the real situation, and gave orders which brought heavy losses. He used to outline his operational plans on a simple, small-scale world map. He required maneuvers (notably in the region of Kharkov in 1942) resulting in the loss of "hundreds of thousands of soldiers." After the vic-

tory "for which we paid so dearly," he did not hesitate to reduce several commanders in rank, he burst out into deplorable remarks about Zhukov, and he made his own genius to be adored in "disgusting" films like *The Fall of Berlin*.

It appears likely that Marshals Zhukov and Vasilevski, and other important chiefs of the Red Army, did not expect that Khrushchev would go so far in lashing out at Stalin. There can be no doubt that Khrushchev's desire for revenge for the many humiliations he had suffered drove him to calumniate Stalin. One can be sure that the future Soviet historians will not draw their inspirations from his frantic charges when they try to define more accurately Stalin's real historical role in the years 1941-45.

An article entitled, "To Study the National History of the Great War More Thoroughly," was published in *The Communist*, the official publication of the Central Committee, some months after Khrushchev's secret report. This article made no mention of his violent attacks. However, it deserves closer examination, for it outlines the task of future historians.

The Communist starts out with the statement that one of the most urgent problems to be resolved concerns the initial phase of the war. This was indeed, so far as military events and their consequences were concerned, "the most distressing period for our country." The troops deployed along the Russian Western Front were in "an extraordinarily difficult situation." The armored and motorized shock elements of the enemy drove through and destroyed many Soviet Army units, penetrating deeply into the interior of Soviet territory. During the first days of the war, liaison between the high command, the general staff, and the troops were often interrupted. The heavy and simultaneous blows of the enemy's air force against strategic targets (airfields, military bases, and supply depots), accom-

panying the advancement of the ground forces, put the best Soviet divisions out of action from the start, deprived the army of a huge quantity of materials, and shattered communications.

The Kommunist continues:

A boundlessly distressing situation developed on the front; the Soviet soldiers had to fight in retreat. The enemy quickly managed to break up the covering front of Soviet troops, and to launch his offensive deeply into the interior of our territory. During the 10 days of retreat by our troops, the Germans occupied vast regions in the Baltic Republics, White Russia, and the Ukraine. The most endangered sectors were the northeast and the east, where the enemy directed his principal attacks in the directions of Leningrad and Moscow. In the east the enemy troops advanced 250 miles within two weeks at an average rate of 12 to 20 miles for every 24 hours. For us this was the roughest and most dangerous period of the war.

Thus *The Kommunist* says the historians will have to bring out exactly the entire complexity of the situation during that period. This will not be very easy, for contradictory ideas have been brought forth in the military press, "misleading the Soviet readers." This refers to an argument which had developed between the two principal military publications of the USSR: *The Krasnaya Zvezda* (Red Star) and the *Voyennyy Vestnik* (Military Herald).

The Kommunist writes:

In an article of 9 May 1956, Red Star unwarrantedly criticized an editorial of the Military Herald which showed a table, accurate on the whole, of the beginning of the war. The Military Herald's attempts to analyze certain causes for our failures at the start (insufficient preparation of the troops, no coordination of actions between the different military units, and others) were labeled as inaccurate and damaging by Red Star. The Red Star proposed no

answer, however, to the question of why the Soviet troops were forced to withdraw so far back into the heart of the country, disregarding the difficulties of that period. It did not show the full complexity of the situation.

Then, how can the retreats of the first months of the war be explained? *The Kommunist* puts it this way:

One of the reasons for the withdrawal was the fact that our army did not yet have experience in waging a big modern war. The German Army had this experience. It was concentrated along the Russian border well in advance and had a considerable number of tanks and airplanes available. On the principal points of his offensive, the enemy succeeded in maintaining a decisive superiority of forces and means.

Then, *The Kommunist* continues with these words:

The German Army broke into the USSR at a time when our new international boundary had not yet been sufficiently fortified nor otherwise prepared for defense. The new arms, in many respects superior to those of the enemy, had just started to be delivered and the men were not yet familiar with them. It should be noted also that our war industry was not prepared sufficiently to make up quickly for the big losses of technical materials, which are inevitable in a modern war of such a large scale. This was a serious defect in the development plan for our war industry in the years before the conflict.

Then, after these general considerations, *The Kommunist* comes to Stalin's personal responsibility:

The cause for the serious defeats our army suffered at the beginning of the war lies in the error Stalin committed in the appreciation of the strategic situation. The facts proving the preparations of Fascist Germany against the Soviet Union

were evaluated inaccurately by Stalin. He deemed the information regarding aggressive plans of Germany against the USSR a provocation aimed at poisoning the relations and kindling a military conflict between the two countries.

Stalin had the point of view that the German Fascist leaders could not have the slightest reason to tear up the pact of non-aggression. One week before the German attack a communique by the Tass news agency appeared in the Soviet newspapers, declaring that information in the foreign press, particularly England, about an imminent war between the USSR and Germany was nonsensical and completely unfounded. In this communique it was said that, according to Soviet sources, Germany respected the terms of the German-Soviet pact of nonaggression as strictly as the USSR.

Consequently, in the opinion of Soviet circles the rumors about Germany planning to break the pact and attack the USSR were fully unjustified. This message, published at a time when war actually was imminent, lulled the Soviet citizens and weakened the alertness of our nation and of her armed forces.

The *Kommunist* emphasized that the careless appreciation of one single member of the general staff would never have assumed such importance for the fate of the State "if only Lenin's principle of collegiate leadership had been maintained within the government of the country."

But unfortunately, this was not the case. Defying Lenin's principles and the norms of party life:

Stalin alone made decisions in extremely important matters concerning the State, the party, and the war, without any consideration for the opinion of other members of the Central Committee of the party. Stalin failed to take all measures necessary in due time to assure the army's combat readiness. That is why the German

invasion into the interior of our country caught our armed forces by surprise, and had hard consequences.

It can be seen that *The Kommunist* picks up some of the complaints as formulated by Khrushchev in his secret report, although in a much more moderate tone, and endeavored to exonerate the other members of the Central Committee of the Communist Party. It is the Central Committee of the party and also the Soviet Government which get the credit from *The Kommunist* for all the measures taken to defend the nation. *The Kommunist* recalls the establishment of the State Defense Committee of which Stalin was named president, but fails to mention Beria's name among its members—which speaks volumes about the historical honesty of the Central Committee paper.

Among the party leaders commissioned with military assignments from the beginning of hostilities, it mentions Khrushchev, Bulganin, and Zhdanov. It states that, owing to them and to the army chiefs who made decisions in agreement with local authorities, "a limit to Stalin's personal machinations was set." Consequently, one of the essential tasks for future historians of the war years of 1941-45 will be to "bring into the limelight the role of the party" which managed to stir up and mobilize the masses of the people, to change the course of the war drastically, and finally to obtain victory.

From July 1941 on, the pace of the German advance was slowed down: Nevertheless, *The Kommunist* admits, the situation was still very critical at the beginning of August. This date marks the start of the terrible battle for Moscow which ended in December 1941 with the successful counterattack of the Soviet troops.

How will the historians in the future account for the outcome of this battle that saved the Russian capital, and "definitely buried Hitler's blitz war plans," as *The*

Kommunist puts it? In the detailed accounts on the different phases of the conflict—accounts which are all similar because they follow the orders of the propaganda section of the Central Committee of the party—it is finally officially conceded that the general withdrawal of the Russian armies between June and December 1941 was a forced retreat.

The alleged plan of an "active defense" actually never existed. This was a mere invention of Stalin's flatterers who credited the generalissimo with a maneuver similar to the clever move of Kutuzov who lured Napoleon's great army into the vast spaces of Russia to deal them the fatal blow there. As Marshal Sokholovsky wrote in *Pravda*:

Under the pressure of the superior forces of the enemy, the Soviet Army was compelled to fight tough battles, and to withdraw deep into the interior of the country. With regard to this, one cannot fail to note that the statement, hitherto widely circulated in our newspapers, that our troops retreated following a preconceived plan, the so-called 'plan of active defense,' does not correspond to reality.

General Platonov declares in *Partiynaya Zhizn* for his part: "In fact, the withdrawal was a forced one." And Pozniak echoes in *The Kommunist*, saying that the retreat was imposed by the events "and not by a certain plan of active defense which never existed but about which until recently much has been written."

Another striking fact is that the credit for the victory of Moscow is, above all, given to army General Zhukov, commander in chief of the Russian Front and to Bulganin, "member of the military council." Honors also were received by General Konev, then commander of the left wing of the South Front and Nikita Khrushchev a "member of the military council." Marshal Sokholovsky also lists Generals Rokossovski and Govorov on his honor roll. But, in his long article of four columns in

Pravda, he omits the name of Stalin entirely.

For contrast, the following by army General Kurasov is quoted from *Pravda*, 7 December 1951. Writing about "Stalin's brilliant plan," he concluded:

The great victory shattered the myths of the invincibility of the German Army and demonstrated the superiority of Stalin's highly scientific strategy over the haphazard strategy of the enemy. . . . The victory before Moscow and all the other historic victories of the patriotic war the Soviet people owe to their great chief and commander, comrade Stalin.

So the directives given to the historians with regard to the first phase of the war are clearly laid down. It is now a matter of repudiating the major part of the theses contained in the *Abridged Biography of Stalin*, and in his own well-known book *About the Great National War of the Soviet Union*, arguments which are infested with the so-called evil "person-cult."

The Difficult Year

Everything indicates that the tragic year of 1941 will be the most vexing for future Soviet historians. They will have to show the bright and the dark sides at the same time. This problem also is given to the writers and artists. Serge Smirnov in the *Literaturnaya Gazeta* of 28 February said:

We are greatly indebted to that most tragic and yet most heroic period of the war—that unforgettable year of 1941 which hurts like a painful wound on the body of the nation.

Until now military literature avoided 1941, and preferred to deal with the second and victorious part of the war. Smirnov says that, in several respects, this is the result of the negative influence of the personality cult and of the theory of "active defense" which labeled the retreats

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At that time, an author could reasonably declare that he preferred not to treat such and such events, rather than to describe them contrarily to the historical truth. Now, fortunately, the theory of 'active defense' is discarded completely, and 1941, with its Titanesque array of events and its Shakespearean turmoil of human passions, awaits its artists.

Literature and history are twin sisters, and for this reason military authors ought to take part at the editing of the history of World War II, a 'Marxist history' which will set things straight about the more or less voluntary errors in the works so far published, written by Winston Churchill, T. Fuller, and K. Tippelskirch.

So far as the years after 1941 are concerned, the task of the historians will be relatively easier. Obviously, it will consist in the restitution of the credit for the victories until now attributed to Stalin, to the Communist Party, to the army, and to the people. In the case of certain occurrences, for instance in the case of the operations in the area of Kharkov in the spring of 1942, the historians will have to draw their inspiration from the passage of Khrushchev's secret report denouncing Stalin's errors. With regard to the long-lasting Battle of Stalingrad, which started in July 1942. *The Kommunist's* article contains the remark that the Russian troops on that front were commanded by General Eremenko, and that one of the members of the military council was a certain Nikita Khrushchev.

This remark is interesting: The first secretary of the party, who in his report already credited himself for the tactics which should have been adopted in Kharkov, likewise emphasizes his importance in Stalingrad. Then, *The Kommunist* states that the party of this city strongly contributed to the organization of the de-

fense, and concludes: "The victory of the Soviet Army at Stalingrad is the victory of all Soviet people."

Thus the historians will have to "de-Stalinize" the history of the war from the start to the end, and bring to the fore the "eminent" role of the party in all provinces: operations on the front, guerrilla activity, and reorganization of the industry in the east.

The Kommunist holds that the innumerable books and pamphlets that appeared since 1945 have no value any longer: They contain "gaps and grave errors." Their description of the events is not objective. The authors tend to "embellish the truth, minimize the difficulties, and conceal the faults and errors." Today, all mistakes that were committed in the course of the operations, "have to be revealed and explained."

The Kommunist once again comes back to the detrimental influence of the personality cult on the history books and even on the publications of the Historical Institute of the Soviet Academy of Science:

The decisive events, the strategic concepts and plans, are presented in those works only as the sole results of the activities of the supreme commander, Stalin, who should have foreseen everything. In those works the commanders of the different fronts and armies and the officers of all ranks are presented only as simple executors of the thoughts and plans of a single man.

It also is necessary "to enlarge the scope of the works," to publish the memoirs of former combatants, and to write the history of regiments and divisions, "hero cities," and big industrial plants—to describe the feats of the workers, the peasants, the industrial and agricultural cadres, and the scientists and technicians. Only in this manner will it be possible to write a realistic and complete history of the war.

Western Allies

There is one point which deserves closer examination. Will the "de-Stalinization" of the history of World War II allow the Soviet historians to give due recognition to the Western Allies of the USSR? The Kremlin blames the "bourgeois historians" for minimizing the role of Soviet Russia, and for not duly acknowledging that she had to carry the heaviest burden, that she had to suffer the most dire experiences, and that her victory on the Eastern Front freed Europe from Hitlerism and fascism. Similar complaints easily could be made about the Soviet historians who, following official directives, were not fair to the Western Armies.

Can we expect big changes in this field? Probably not! Certainly, after Stalin's death, the military and political leaders of the USSR were not silent about the contribution of the Allies to the common victory. Marshal Zhukov was one of the first to speak up in this respect. In the article of *The Kommunist*, which we have analyzed here, we find the following sentence:

An important role in attaining victory over the common enemy was held by the British, French, and American people and their armed forces.

However, this rather lukewarm mark of honor comes after the Communist review rendered honors:

To the soldiers of the Polish Army, to the Czechoslovakian Corps, to the Peoples' Army of Yugoslavia, and for their actions in the last phase of the war, to the fighting men of the Bulgarian and Romanian Armies.

The Kommunist picks up almost all anti-Western theses of Stalin's time. First, it alleges that, in August 1939, Great Brit-

ain and France secretly negotiated with Hitler while pursuing their talks with the USSR, and that this doubledealing of London and Paris forced the Soviet Government to sign the nonaggression treaty with Germany. Then it adds:

Contrary to the expectations of imperialistic circles, the Second World War did not start with an attack against the USSR, but with a conflict among the capitalistic countries.

Then, *The Kommunist* charges the English and French for having retarded the opening of a second front in Europe instead of quickly relieving the Eastern Front after the Russian victory in Stalingrad. The British and Americans limited their actions for too long a time to Africa, a secondary theater of operation.

And only the Soviet victories in Stalingrad and Kursk made it possible for the West to land their troops in Sicily and southern Italy. It was the Eastern Front which bound all the German reserves.

Finally, *The Kommunist* attacks the "bourgeois fakers" of history, the "reactionary historians" who refuse to recognize two things: First, that the very costly victory of the Russian people liberated Europe, and second, that this victory proved the superiority of the Socialist system over the capitalistic system.

All these arguments are only too well-known. They are the same ones found in the history books, and in the novels and films which appeared during the era of the Stalin cult. If they are reused again now in a study about the future history of the war, it proves that, with respect to the basic points of this history, Stalin's spirit continues to inspire his successors.

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BOOKS OF INTEREST TO THE MILITARY READER

THE DAY I WAS PROUDEST TO BE AN AMERICAN. By Donald Robinson. 288 Pages. Doubleday & Co., Inc., Garden City, N. Y. \$3.95.

This is not an attempt to convey a wordy or complicated message. The message is simple: Americans, as individuals or in groups, can be great; therefore, it is great to be an American.

This several hours worth of diverting reading, which should put a lump in your throat from time to time, is a collection of brief and highly entertaining essays by 69 Americans on the subject of the book's title.

The heartwarming essays are loosely assembled into several major categories: "People in America," "The Leaders of America," "Americans at War," "Americans at Work," "Americans at School," "America's Health," "America and Its Minorities," and "Americans Abroad."

More of the anecdotes are about "little" people than about "big" ones, and naturally a number of them deal with war and military personnel or with visitors or immigrants to the United States.

Authors range from United Nations Representative Irene Dunne and AFL-CIO President George Meany, to Captain Benjamin F. Wilson, Infantry, and Private First Class Seymour Shiplacoff of the Army.

Several of the vignettes have appeared in *Reader's Digest* and *The American Weekly* and all are well-written and introduced by a sketch about the author.

WHAT HAPPENED AT PEARL HARBOR. Edited by Hans Louis Trefousse. 324 Pages. Twayne Publishers, Inc., New York. \$6.00.

By LT COL IRVING HEYMONT, *Inf*

As long as Americans take an interest in history, the question will be asked, "What did happen at Pearl Harbor?" Although warned of the momentary outbreak of war through possession of the Japanese secret codes, Pearl Harbor came as a surprise.

Mr. Trefousse has assembled the pertinent documents related to Pearl Harbor, including the Hull-Nomura conversations, postwar testimony of Ribbentrop, the Ciano diaries, and testimony taken by the Congressional Joint Committee on the Investigation of the Pearl Harbor attack. The witnesses speak for themselves and recreate the atmosphere of the tragic day.

In retrospect, the real blunder of Pearl Harbor was committed by the Japanese. Their attack on Pearl Harbor had no lasting military value. It involved the last remaining world power not at war. It silenced those strong elements within the United States opposing entry into the conflict and solved the dilemma of how to aid the Allies whose survival was essential for the survival of the United States.

The author's well-arranged collection of documents is a fascinating unfolding of a major drama in the words of the participants. Many military personnel will read it and wonder, "What would I have done under the circumstances?"

THE MEMOIRS OF FIELD-MARSHAL MONTGOMERY. By Field Marshal The Viscount Montgomery of Alamein, K. G. 508 Pages. The World Publishing Co., Cleveland, Ohio. \$6.00.

BY MAJ ARLAND H. WAGONHURST, *Inf*

Both military historian and casual student of the World War II era will find this autobiography inspiring and controversial—inspiring because it contains the vivid reflections of a great soldier who devoted 50 years of his life to the service of his country and the free world; and controversial because it revels in biting frankness, blunt appraisal of military action, and sincere character analyses.

Marshal Montgomery's accounts of the battles of Alam Halfa and Alamein are colorful and exceptionally well-detailed as only the designer of the "master plan" could present them. The success of the British Eighth Army from the Nile to Tunis was, of course, due to many contributing factors, but the resourcefulness, stubbornness, and self-confidence of Montgomery were the greatest contributors—so history records it.

Throughout his analysis of the battles—from Africa to Sicily, from Italy to Normandy, and from the Seine to the Elbe—Marshal Montgomery injects a unique personal gusto for which he has often been criticized. The reader cannot help but recognize that this great soldier is extremely nationalistic and devoutly loyal to all that is British. His frank and occasionally caustic evaluation of events and personalities are humorous and enlightening.

Without any doubt, Montgomery is a general's general, skilled in waging war, bold in heart and tongue, stubborn, egotistical, devoted, resourceful, energetic, confident, and intensely aware of responsibility and duty. No military personality can compare to Montgomery of Alamein. His qualities, individuality, and singularity have destined him to become a legend.

UP CAME HILL. The Story of the Light Division and Its Leaders. By Martin Schenck. 340 Pages. The Stackpole Co., Harrisburg, Pa. \$5.75.

BY MAJ WILLIAM W. CHANDLER, *SigC*

The final words of Robert E. Lee were, "Tell A. P. Hill he must come up." From this statement Judge Schenck derives the title of his book which concerns the Light Division and its most famous leader, A. P. Hill. The campaigns of the Light Division, from the Seven Days' Battles through Chancellorsville, are examined in some detail, together with the actions of Hill and his brigade commanders.

The largest division in the Army of Northern Virginia, the Light Division found itself in the thick of each battle, receiving more than its share of the casualties, and always turning in a commendable performance. A. P. Hill might be called the best division commander—of either army—of the Civil War. This book reinforces his claim to that distinction. He was respected by friend and foe.

At Chancellorsville the Light Division lost its famed commander when Hill became corps commander after Jackson fell. Then the Light Division was split to form a division under Pender and half of another under Heth. Neither Hill nor the Light Division was ever quite the same again.

The animosities between Hill and Longstreet and between Hill and Jackson are discussed. Indeed, at times the author seems to be writing, "Puncturing the Myth of Stonewall Jackson." He does present a number of extremely interesting views, however. If Jackson is dealt with rather harshly at times, it is forgivable in the light of the author's apparent high regard for Hill.

This is an interesting, easily read book—a fine tribute to an outstanding leader and an excellent unit.

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IN FLANDERS FIELDS: The 1917 Campaign. By Leon Wolff. Introduction by Major General J. F. C. Fuller. 308 Pages. The Viking Press, Inc., New York. \$5.00.

By Lt Col Harold E. Beaty, CE

In a single year the Allies suffered 400,000 casualties in the muddy fields of Flanders. During this never-to-be-forgotten year of 1917, the Allies attacked time after time against the well-entrenched German forces whose effective fires repelled every assault. As a result, the advances were insignificant. At the end of 1917 Field Marshal Donald Haig, then commander of the assaulting Allied troops, admitted that he could advance no farther. The few meager square miles that had been gained were paid for at probably the highest price ever known in blood and material for real estate which was mostly under water.

It is interesting to note that Great Britain's Prime Minister, Lloyd George, was unable to halt this campaign. It is even more curious that Field Marshal Haig believed he could win singlehanded a victory that would drive the German Army from the submarine bases along the Belgium coast—and he got his way.

In his basic planning for the campaign, Haig believed that after the breakthrough his cavalry could clean up the battlefield in a grand exploitation similar to Napoleonic tactics. But the Belgium quagmires dictated the conduct of the battle, and Haig refused to accept this fact. A controversy of unparalleled bitterness surrounded the costly campaign from its very inception and continues today.

The author has vividly reconstructed the events of that time in a dramatic story of courage and sacrifice, of strategy and tactics that heartbreakingly misfired, of the feuding between a field commander and a prime minister, and of the situation on the divided British homefront. He has produced an outstanding book which is very interesting and easy to read. The

book actually is more than a military history, it is a study in human characteristics.

This accurate and dramatic narrative will hold the attention of the general reader. It is recommended reading for the professional soldier.

NUCLEAR REACTORS FOR POWER GENERATION. Edited by E. Openshaw Taylor. 144 Pages. The Philosophical Library, Inc., New York. \$7.50

By Lt Col George D. Carnahan, OrdC

This book provides an up-to-date survey of the most important aspects of nuclear power generation. The chapters are based on an advanced lecture course delivered at the Heriot-Watt College, Edinburgh, Scotland.

Each chapter is contributed by an authority and recent developments have been taken into consideration in preparing the material for publication. Each tends to be complete in itself and requires little cross reference to the other chapters. Although parts of the book require considerable technical background for high comprehension, other parts are absorbed easily by persons with a lesser technical foundation.

In a chapter on nuclear physics the author summarizes the entire field of reactor design by saying:

It is seldom that traditional engineering materials can be used; they may be unsuitable because they trap too many neutrons, or because their transmutation products are too dangerous or too difficult to handle, or because their properties change too much when subjected to the intensely radioactive influence of the reactor. New and ingenious solutions of familiar problems have to be sought; it is to this factor that nuclear engineering owes its provocative and stimulating character!

The book is recommended to all those who require information on the latest developments in the expanding and important field of nuclear power generation.

LOST VICTORIES. By Field Marshal Erich von Manstein. Edited and translated by Anthony G. Powell. Foreword by Captain B. H. Liddell Hart. 574 Pages. Henry Regnery Co., Chicago, Ill. \$7.50.

By MAJ HARRY H. JACKSON, *Inf*

German Field Marshal von Manstein outlines the scope of his excellent book when he states in the preface that his "activities in World War II . . . led me to deal with events largely from the viewpoint of leadership at a higher level." He says also that he has "deliberately refrained from discussing political problems or matters with no direct bearing on events in the military field."

Lost Victories is the after-action report of a dedicated professional officer. Writing with clarity and restraint he describes his role as a senior staff officer, and corps, army, and army group commander from 1939 until relieved by Hitler in 1944. As a participant in the German campaigns in Poland, France, and Russia he writes "not as a historical investigator, but as one who played an active part in what I have to relate."

The main emphasis of the book is on the war in Russia. The problems involved in conducting operations over extended frontages and in continuously unstabilized situations offer some extremely important introductory views into many of the dilemmas faced by the larger unit commander of today.

Field Marshal von Manstein's lucid discussion of the defensive operations in southern Russia is an excellent case study demonstrating the maintenance of tactical initiative during a period of strategic defensive activity.

The author's accounts of his "appraisals" of the situation, his decisions, and his personal supervision of critical combat operations offer insights into German military procedures and leadership techniques. The importance of initiative and

imagination are stressed continually in this writing. The requirements for effective communication and the need for operational freedom in the field of grand tactics is pointed out dramatically.

German generals interviewed by Captain B. H. Liddell Hart considered Field Marshal von Manstein the "ablest commander in their Army." The marshal believes firmly that warfare remains an art in which clarity of appreciation and boldness of decision constitute the essential elements.

Reading the significant military account of this outstanding soldier is a worthwhile and rewarding endeavor. For the professional military reader interested in the requirements of higher command this book offers a wealth of primary source material.

CONCISE DICTIONARY OF CONTEMPORARY HISTORY. By Sherwin Burickson. 216 Pages. The Philosophical Library, Inc., New York. \$4.75.

This volume presents an exceedingly handy research tool covering recent events of historical import. It provides a concise but ample compilation of recent and contemporary events and biographies of persons still living or only recently deceased that cannot be found in any other single volume.

This book, covering the last 100 years of history in alphabetically indexed arrangement, cannot in its few pages provide complete information on every facet of the period. However, it does perform a vital function of presenting the basic information on the important people, events, and places of the swift-changing developments of the past century.

All in all, it compresses an amazing amount of knowledge into a very limited space, providing the student, historian, or other interested reader with a most valuable reference source in smoothly readable form.

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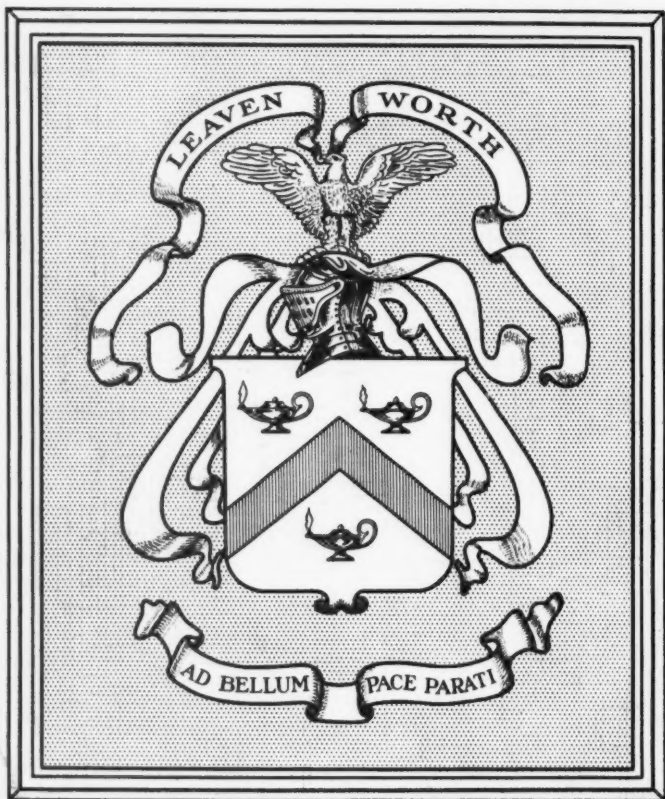
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